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Non -core asset review in EU markets for selected sectors

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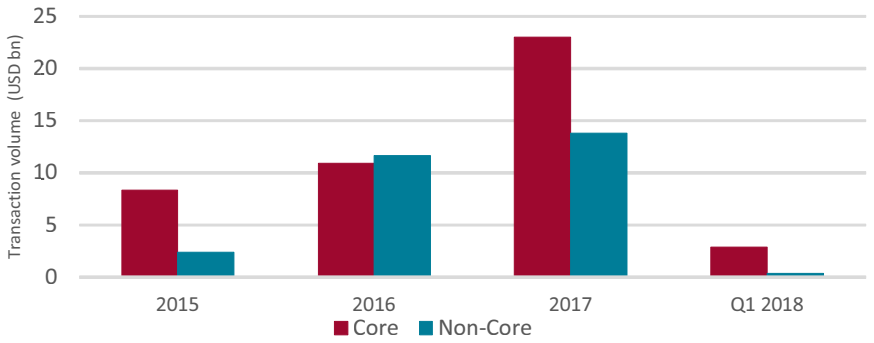
Introduction

The global financial crisis of 2007-2008 triggered a move by institutional investors and private equity funds towards greater competition for traditional greenfield infrastructure assets throughout the EU. This has contributed to strengthening the reputation of infrastructure as an alternative asset class, appealing to investors because of its barriers to entry, long-term cash flows and resilience to business cycle fluctuations. Since then, the availability of inexpensive capital through a large number of new and dedicated infrastructure funds in a low interest rate environment has contributed to fierce competition amongst such investors and has put severe pressure on prices for traditional infrastructure assets.

Admittedly it has become commonplace in the industry to lament the dearth of a pipeline of core infrastructure deals. While the scale of this lack of opportunities is often exaggerated, it is undeniable that greenfield project finance deals are less frequent today than they were, for example, in the heyday of the UK's Private Finance Initiative (PFI) in the late 1990s and early 2000s.

As a result, investors have looked at the wider secondary market, including non-traditional sectors, which share the characteristics of infrastructure assets being asset-backed and having long term cash flows. Investors have learnt to adjust their appetite for risk and expectation of potential yield, with such non-core assets having greater risk than core infrastructure and often offering higher returns. These elevated returns may not be available in the longer term as competition heats up, so it is in the private investor's interests to enter these sectors before they become excessively commoditised.

Figure 1: Core vs non-core deal flow in the EU (2015 – Q1 2018)



Source: inspiratia, 2018

This trend has led to a critical re-assessment of what constitutes infrastructure, as an increasing number of new assets offering long term stable cash flows are incorporated under this definition.

Definitions

The separation of core and non-core infrastructure assets is increasingly adopted to make sense of a rapidly changing market. There is, however, no consensus on what should be included in these categories.

For infrastructure assets to be regarded as core, they should exhibit certain shared features, such as offtake agreements or concessions with sovereign or financially stable entities. They also benefit from an oligopolistic position within a market for essential services. Hence, the crucial characteristics of core infrastructure assets are that they offer cash-flow stability and gain from a reliable legal framework. Classic examples of core infrastructure assets are transport infrastructure projects such as toll-roads.

However, defining non-core assets is highly subjective. While they usually possess several of the features discussed above, they generally have a greater exposure to geopolitical, construction, market, technology and regulatory risks. Nevertheless, what categorises these sectors as infrastructure assets is the presence of entry barriers and their capital-intensive nature.

Geographically, the European Union includes attractive economies for initial non-core infrastructure investment, as these jurisdictions generally present relatively low geopolitical and economic risks and more mature regulatory frameworks.

Non-core assets can be broadly divided into two categories

- technology-driven non-core
- opportunity-driven non-core

Opportunity-driven non-core

Opportunity-drive non-core assets are nothing new, but changes to regulation, demographics and innovation have created opportunities for institutional investors to enter these sectors.

Many of these assets, such as hospitals, rolling stock and real estate have proven attractive as asset classes for many years, but are now increasingly considered investable by infrastructure investors. For example, hospitals and healthcare are part of a highly regulated industry and include increasingly valuable assets in their specialised equipment, facilities and services, to the point that they are often considered core assets. Nursing homes have attracted investors due to the EU's aging population and

relatively high disposable income as well as the high-yielding and fully-managed nature of these assets.

In the UK, rail operators awarded franchises to run services on the network are required to lease rolling stock from specialist rolling stock operating companies (ROSCOs), which has created opportunities to invest in such businesses. Rolling stock returns on investment have also followed changes in construction technology that have made them a more viable asset class, but they also face high pressure on investors to improve operational performance and remain vulnerable to policy changes.

Real estate is well understood by large institutions, with high capital costs acting as a high barrier to entry. This asset class has a low correlation with other assets allowing institutions to diversify their portfolios.

A number of opportunity-driven non-core sectors have similar characteristics. Car parks, for example, are a subsector of real estate due to their stable revenue streams and relatively simple construction. However, they are vulnerable to changes in consumer trends in their specific geographical location.

Technology-driven non-core

Data centres, along with broadband and smart meters, are relatively new assets brought into existence by technological developments and regulations. Increasing reliance on the internet as a utility for businesses and individuals ensures that data centres and broadband now provide an essential service to society. In this respect, the rise in broadband investment has been quite dramatic.

Broadband infrastructure has performed well in jurisdictions such as France and Mexico, where governments welcome private sector investment and regulation is streamlined. However, it has struggled to become effective as an asset class in countries like Germany, where regional regulation and a government-backed incumbent, Deutsche Telekom, has limited the penetration of other players.

Similarly in the UK, the infrastructure was for a long time owned by a semi-private company, Openreach. However, once installed, the quasi-monopolistic long-lasting nature of the cables and network assets has made them a worthwhile investment. More sophisticated data centre facilities offer a range of services to increase their value as an asset-class but, in a similar way to car parks, they are simple to build.

Future non-core

In exploring the potential of technologically driven asset classes, we can expect the number of new infrastructure assets to expand rapidly, given the pace of change that characterises technological transformations.

Long-term investors must therefore be prepared for industries to change business models on a 5-10 year basis, a much shorter time period than anticipated by investors in 20-30 year concessions, and so must guard against any potential impact on long term cash flows. The Harvard Business Review also found in 2016 that, “despite the importance of accurately identifying and calculating company synergies, diligence work frequently results in an overly optimistic view of the revenue synergy opportunity.”

For example, the increasing adoption of electric vehicles (EVs) will bring with it the need for a network of charging points to be built across city and highway infrastructure. Even more significantly, new breakthrough technologies, such as automated vehicles (AVs), will have a significant impact on a number of existing assets, ranging from roads and car parks to data centres.

1. Market overview

On the basis of the analysis initially undertaken, six non-core asset classes that provide a higher potential of deal activity in the secondary market are the subject of further analysis:

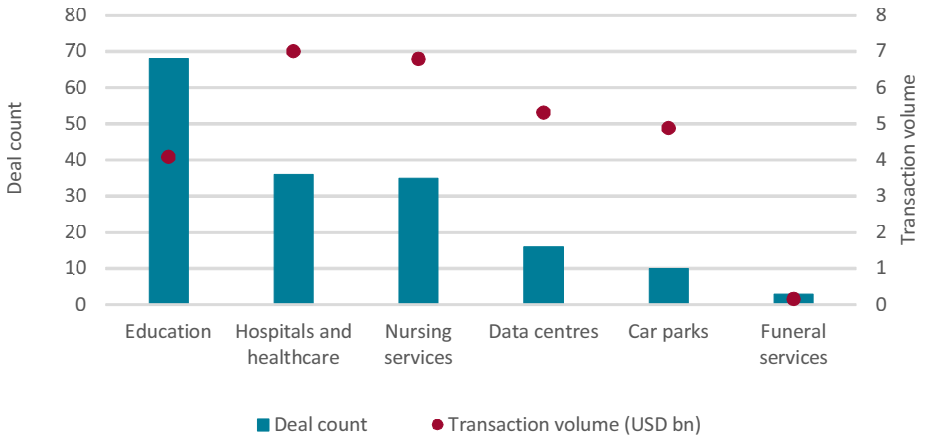
- hospital and healthcare services
- nursing services
- funeral services and crematoria
- education
- data centres
- car parks

The factors driving the development of these six sectors are quite different. Hospital and healthcare services are arguably the most mature. Even considering them as non-core assets may be contentious, given their relative maturity. That being said, hospitals and healthcare services, together with nursing services, are non-core assets from the perspective of longer term infrastructure investors who look for lower returns and less risk, rather than, for example, private equity funds who have a shorter term and higher return perspective. They are therefore likely to attract further interest from the former, given the demographic transformation currently taking place across the EU.

The same trend can be observed in funeral services and crematoria. Meanwhile, private schools are destined to grow in parts of the EU because of an increasing perception of the deteriorating quality of state schools, though in some markets, such as the UK, they would be considered to be in the secondary market stage. The growth of data centres is mainly due to the increasing needs of the digital economy. This trend is set to intensify exponentially with the adoption of 5G broadband, the main driver behind the full deployment of the Internet of Things (IoT).

Car parks are another asset class that could be significantly impacted by ongoing mobility transformations. As there are still different opinions on the impact of EVs, AVs and other smart mobility solutions on transport, it is yet to be seen how car parks will be transformed. In the short and medium term, the rising adoption of AVs and EVs could lead to the emergence of suburban mega car parks, which would result in a profound impact on the traditional business models of car park operators.

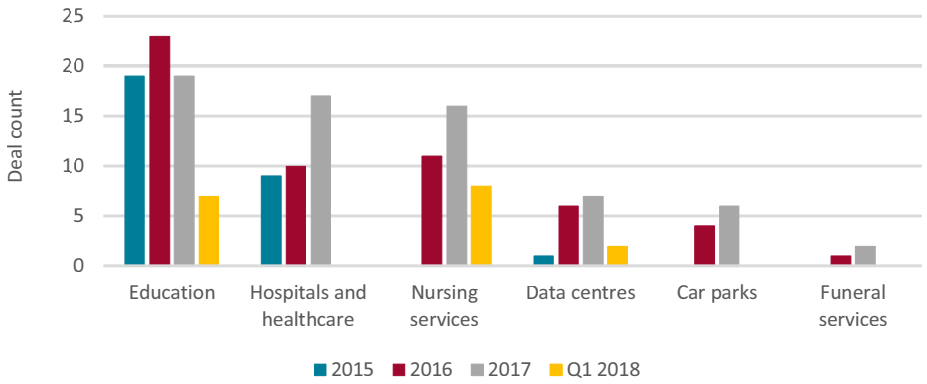
Figure 2: Deal flow by sector (Q1 2015 – Q1 2018)



Source: inspiratia, 2018

Figure 2 indicates these sectors' deal flow across the time-period. There is a conspicuous similarity in the deal count and transaction volumes of the nursing services and hospitals, which could be attributed to the similar drivers in the market and the similar asset types involved with the sector. Data centres and car parks, the real estate style investments, are also relatively similar in ratio of transaction volume to deal count, but there has been more activity in data centres overall, perhaps underlining the realisation of an urgent need for more data storage across the continent.

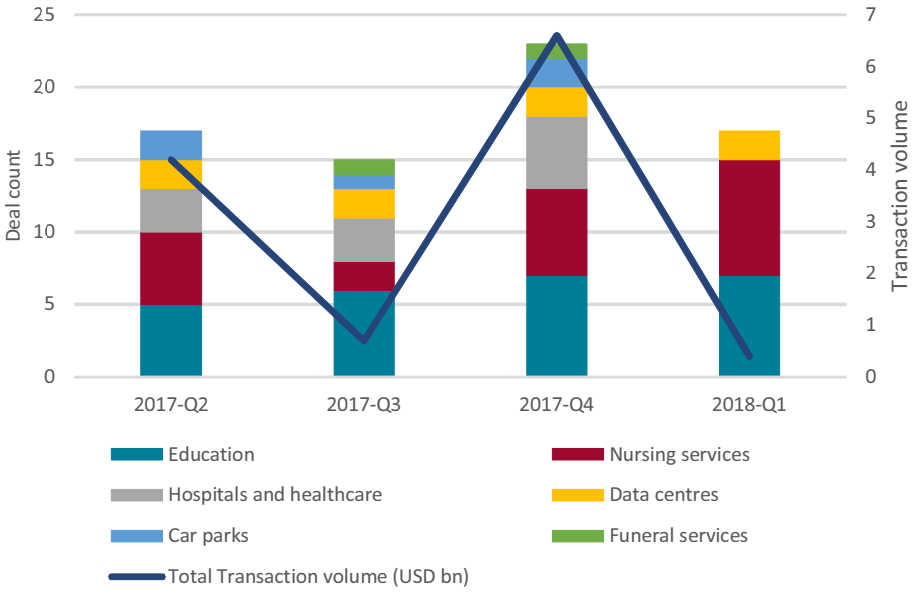
Figure 3: Historical deal flow (Q1 2015 – Q1 2018)



Source: inspiratia, 2018

Figure 3 shows the development of the six sectors in recent years. Back in 2015, there was great awareness of education and hospitals assets as investment propositions, and the massive surge in required data storage capacity had created the impetus for the beginnings of investment in data centres. In 2016 there appears to have been a greater responsiveness of non-core sector as investment opportunities, as acquisitions were also made in nursing services and car parks. This perception has continued to grow to incorporate crematoria in 2017.

Figure 4: Quarterly deal flow (Q2 2017 – Q1 2018)



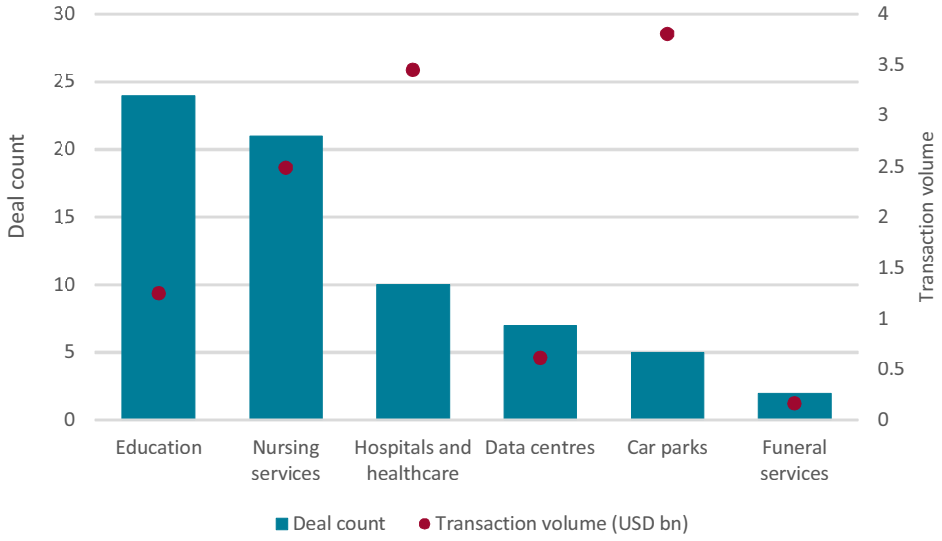
Source: inspiratia, 2018

Figure 4 highlights the consistency of deals in education, across the twelve-month period from Q2 2017 to Q1 2018, evidencing its position as an asset class in the secondary market stage. Hospital and healthcare acquisitions have also appeared in each of the four quarters, but the number of transactions has been less consistent. This may be because, as hospitals have been considered as a core-asset by some investors for a while, opportunities to make worthwhile investments have become scarce.

However, funeral services and crematoria acquisitions are far less common, showing the caution with which investors are approaching the sector. Visible transaction values in the market have varied hugely in the timeframe, likely due to a reluctance from the sponsors to reveal their input than large drops in the values of the deals being closed.

Figure 5 shows a wide variation of deal count to transaction volume ratio across the sectors. Car parks stand out here in particular as having relatively low activity but the highest transaction volume of the group, which is indicative of the corporate level consolidation occurring in this sector led by investment firms. Activity in funeral services and crematoria, on the other hand, remains slow as investors weight up the risks of entering this sector.

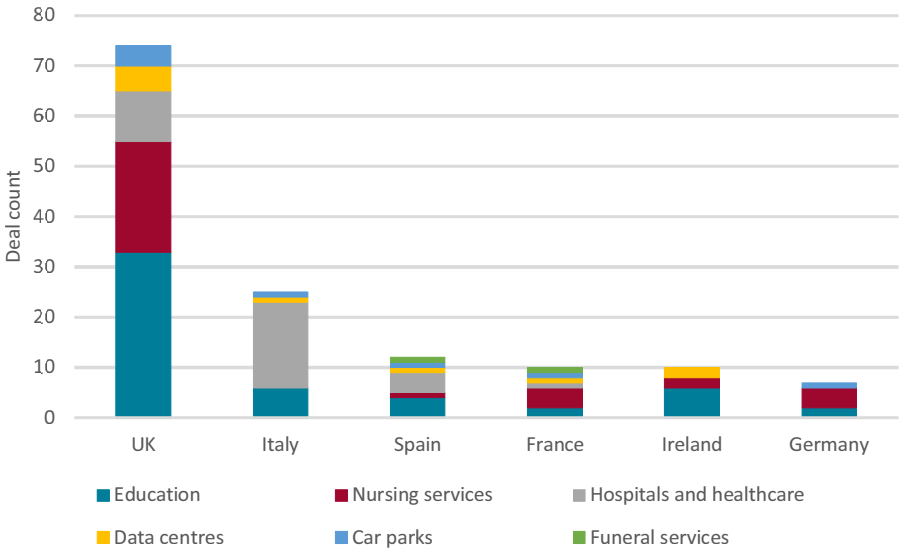
Figure 5: Deal flow by sector (Q2 2017 – Q1 2018)



Source: inspiratia, 2018

When compared with Figure 2, this chart shows remarkable consistent deal count to transaction volume ratio both in the 2015 to 2018 timeframe and the twelve months to Q1 2018 for the education sector. This is further evidence of the education sector's maturity in the secondary market.

Figure 6: Non-core M&A deal count by country (Q1 2015 – Q1 2018)

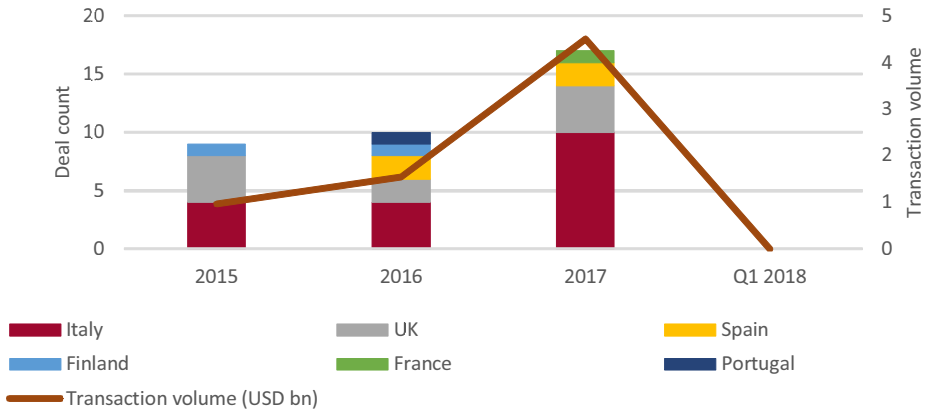


Source: inspiratia, 2018

Figure 6 shows the activity of these six sectors by country and reveals that the UK has been the most active investment market for non-core asset acquisitions due to significant activity in education and nursing services. However, Italy has the most activity in hospitals and healthcare M&A of all the major EU states.

2. Hospitals and healthcare services

Figure 7: Hospital and healthcare M&A deal flow (2015 – 2017)



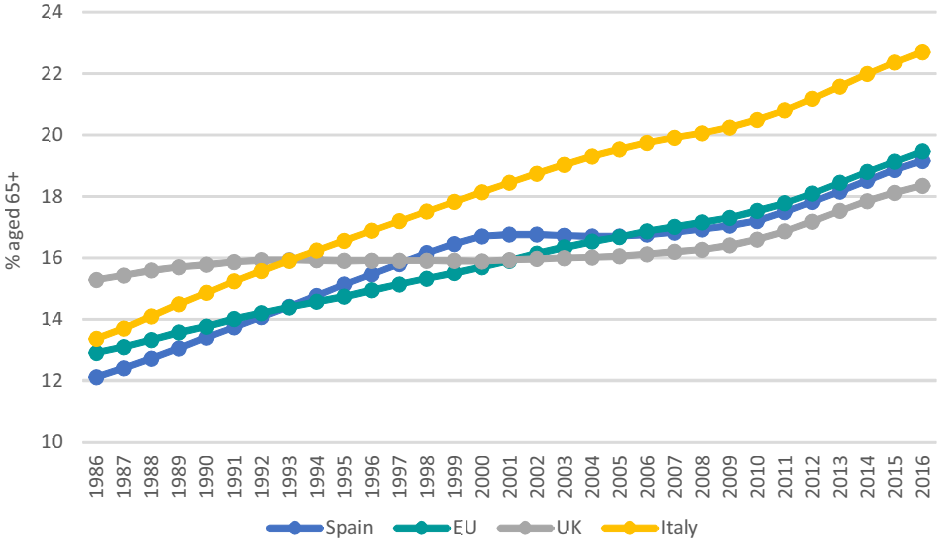
Source: inspiratia, 2018

- M&A deal value in 2017 amounted to US$4.5 billion (€3.8bn), 192% higher than in 2016
- The average deal size in 2017 was US$500 million (€425m)
- Deal count increased from 10 in 2016 to 17 in 2017
- The largest deal in the 2015-2018 period was the US$1.9 billion (€1.57bn) Cerba Healthcare acquisition, which closed in April 2017
- The largest deal in the pipeline is Antin Infrastructure Partner's 60% stake acquisition in Almaviva Sante which reached commercial close in October 2017 with an estimated value of US$300 million (€249.3m)
- The most active markets are Italy with 13 transactions and the UK with 10
- Equitix, Ardian, AXA and Antin Infrastructure are the most active investors

2.1 Overview

The two main factors which drive healthcare M&A in the EU are demographics and migration. Increasing life expectancies, combined with decreasing fertility rates in developed countries, have resulted in the EU's aging population. Admittedly, migration plays a role as it is a contributing factor to individuals attending hospitals, but current migration rates are not likely to reverse the EU's age ratio.

Figure 8: Percentage of population aged 65 years and over (1986 – 2016)



Source: World Bank, inspiratia, 2018

Advances in medical care mean that patients are surviving more serious illnesses, but often with chronic conditions such as HIV, leukaemia and diabetes. In turn, the cost of advanced, personalised medicines with specialised equipment and facilities has increased the need for governments to outsource healthcare to the private sector. The demand for quality of service continues to increase across the board, while the pressure to deliver services efficiently and cost effectively has also risen.

As a maturing market, healthcare infrastructure M&A is reasonably capital-intensive, and the stable nature of returns in times of economic disruption is well recognised among investors. Hence, it is becoming relatively competitive. Our data reveals the most active market for hospitals and healthcare infrastructure M&A is Italy, followed by the UK.

Across the EU, healthcare is treated both as a public and a private asset to varying degrees. In the UK, the state-owned NHS owns a considerable number of assets, but the private sector plays a prominent role, allowing for considerable M&A activity. Italy too has a private sector that sits alongside its public healthcare system. It is interesting that Italy and the UK, two countries with fully public healthcare systems, see the most activity in healthcare infrastructure M&A.

France and Spain offer a mix of insurance and single-payer system, whereby basic healthcare is provided by the state. However, those with medical insurance can benefit

from more “upgraded” treatment, with faster results for non-emergency services and more specialised consultants available. Germany’s private system mirrors the USA’s insurance-based system to a certain extent.

The biggest transaction driver is consolidation, as the assets within this industry still remain largely fragmented across jurisdictions, despite several industrial and financial players being active in the sector. Once assets have been bundled and any possible de-risking has been addressed, the primary M&A aims are international expansion, diversification and operational improvements.

Subsectors such as mental health are seeing increasing investor interest. Governments, employers and individuals are beginning to understand the economic and social impact of mental health on the population, so high quality, highly specialised treatment centres are seeing more investor interest. Since public healthcare funds are stretched, the remaining inevitable funding shortfall has revealed a good opportunity for private investment, so M&A in this subsector should become more competitive in the coming years.

Meanwhile, dental services could also see further growth, as poor dental hygiene is understood to be linked to other medical conditions such as heart disease. Private facilities look to provide more complex and costlier dental treatments and more sought-after aesthetic procedures.

2.2 Deal flow

As a relatively mature market, there are several top financial players with significant dominance in the field. Equitix, a London-based infrastructure investment firm which emphasises hospitals and healthcare as an aspect of its social infrastructure portfolio, is the sector’s most frequent investor across the EU, with four deals closed in Italy over the last three years.

With its status as an institutional investor, the insurance group AXA diversifies its investments in healthcare, showing the potential for this sector to be considered as a core infrastructure asset. Skanska and John Laing are also active players in the market, showing the dominance of construction investor participation in the healthcare M&A market.

Sector-specific investors such as Bupa, a British private healthcare provider and insurer, continue to make acquisitions in the sector, and so challenging the dominance of the market’s financial players. There are also some smaller investors who have closed deals in the last three years, often companies which have been acquired by or have the backing of private equity, which then provides the capital for acquisitions.

Overall, the cost of bids has risen in healthcare as financial investors look to secure opportunities, driving down revenues. This pattern displays the increased M&A activity going on in the sector, allowing for greater efficiency and lower costs-per-bed.

The dental subsector of the healthcare industry has made a significant impact on the sector's M&A activity. The US$1 billion (€830m) acquisition in Q1 2017 of Oasis Dental Care from Bridgepoint by Bupa in the UK is an example of how valuable private sector dental care portfolios have become. However, this deal was referred to the UK Competition and Markets Authority by the European Commission, so this may be a sector with more governance risk than others.

Another acquisition in the dental space has been London-based BC Partners' 2017 acquisition of the Italian dental clinic, DentalPro from Summit Partners, VAM Investments and other private investors. This deal required regulatory approval and was valued at US$462 million (€375m).

While the EU pipeline of greenfield hospitals has dwindled in recent years, secondary market activity is promising. M&A deal value in 2017 amounted to US$3.6 billion (€2.9bn), 140% higher than in 2016. The average deal size in 2017 was US$711 million (€590m), which is much higher than the figure recorded in the previous year US$192 million (€159m), though this may have been skewed by a lack of visible transaction values the year before. However, the deal count increased to 12 in 2017, compared to 11 acquisitions in 2016, so there may have been some corresponding rise in values.

Closed deal counts have on average risen in last three years, the largest of which in the 2015-2018 period was the US$1.9 billion (€1.57bn) Cerba Healthcare acquisition in France. The deal closed in April 2017, saw investment management groups PSP Investments and Partners Group acquire the European medical laboratory services group from the private equity firm PAI partners. This shows the value that private equity houses can provide to this sector and so major financial investment in the EU healthcare market looks set to continue.

The largest deal in the pipeline is Antin Infrastructure Partner's 60% stake acquisition of Almaviva Sante group in France, which has an estimated transaction value US$352 million (€300m). One of Italy's largest deals by transaction value in recent years was the Q2 2016 46.7% stake acquisition of KOS, an Italian healthcare provider, by industrial group CIR and infrastructure investor F2i from Ardian for US$366 million (€304m).

In Q1 2017, Aberdeen Infrastructure Funds acquired 11.67% interest, valued at US$7 million (€5.8m) of the Hospital Universitario del Sureste in Spain from Globalvia, an infrastructure asset management firm. In November 2017, the Swiss-based Quaero European Infrastructure Fund, managed by Quaero Capital, bought the Hospital del Tajo for US$69.7 million (€58m) from Assignia Infrestructuras, Sando and Inabensa, a subsidiary of Abengoa.

The deal reached financial close in April 2017, and represented the sixth deal for Quaero's infrastructure vehicle, as well as being its first in Spain and in the health sector. The sellers were awarded the DBFOM project as a 30-year concession in 2005. Located in the city of Aranjuez, within the Community of Madrid, the hospital originally opened in 2008, and has a surface area of 46,000 m².

2.3 Market risks

EU investors have found that hospitals and clinics are a more reliable asset class than the associated manufacturing industries since the EU regulations on medical devices are in a transitional phase. The upcoming changes will intensify market scrutiny and increase the amount of medical evidence required by manufacturers, causing regulatory risk for established players.

Healthcare infrastructure is known to be a highly regulated industry, often on a national and local level, which provides stability for institutional investors. However, most hospitals are regulated at a local level, where attitudes to investments may change and will not be consistent across jurisdictions, so fixed business models are difficult to implement on a cross-border basis.

Design, construction and refurbishment are also significant factors in hospital risk profiles. Hospital renovations are highly controlled to limit infections, to avoid damage to medical gas pipelines and to allow for an efficient system through which patients can safely circulate. Residual dust and microbes released during building disturbances can spread diseases among patients and staff. As healthcare gradually digitalises, risks to technological infrastructure should also be considered, along with construction and refurbishment.

Risk of exposure to policy amendments is fairly high in this sector, and so changes to private health insurance within EU countries or to EU-wide regulations on healthcare could have a knock-on effect on these assets. During times of political change, parties may have differing and evolving attitudes to private investment in their nation's healthcare system, which can make investment and development challenging.

2.4 Future trends

Consolidation moves within the largely fragmented asset base are the primary reason for M&A in this sector because they can offer operational savings. Individual hospitals and healthcare centres often have inefficient staffing and technological systems, and higher costs per bed with regards to insurance and equipment acquisitions.

By consolidating assets, investors can increase efficiencies and asset value. Synthesizing technology with traditional care aims to bring costs down and increase the accuracy of

diagnoses by supporting doctors with Big Data and artificial intelligence (AI). As such, implementing digitalisation can bring assets in line with modern practices, more effectively leveraging the wide industry's wide knowledge-base.

Hospitals and healthcare have also provided sound returns in recent years, so combined with their resilience in times of economic turbulence, they act as a good diversifier within investment portfolios. This knowledge will likely bring about more interest from a wider field of institutional investors. In time, we could see healthcare infrastructure M&A reach the level of competition seen in transport infrastructure.

Turkey saw considerable greenfield healthcare activity in the years following the parliament legislating in 2013 to allow more private building of hospitals, which would be leased back to the state. This could result in more secondary market deals in Turkey in years to come following the pattern of development in the UK and Italy, but that will depend heavily on the country's economic and political stability.

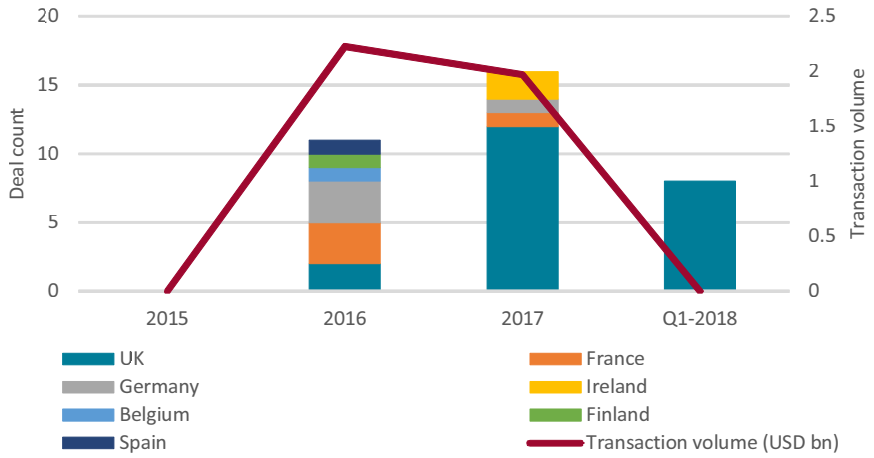
Table 1. Hospitals and healthcare deals (2015 - 2018)

Deal	Country	Buyer	Seller	Date	Capex	Status
Cerba HealthCare	France	PSP Investments, Partners Group	PAI Partners	20/4/2017	$1.9bn	Financial close
Oasis Dental Care	UK	Bupa	Bridgepoint	17/03/2017	$1.1bn	Financial close
KOS Italian Healthcare Stake	Italy	CIR, F2i Fondi Italiani per le Infrastructure	Ardian	18/05/2016	$366m	Financial close
Almaviva Sante	France	Antin Infrastructure	GIMV, UI	18/12/2015	$352m	Commercial close
8 Italian Hospitals	Italy	AXA Real Assets, Medicap Properties Trust	Policlinico Di Monza	19/11/2015	$220m	Financial close

Source: inspiratia, 2018

3. Nursing services

Figure 9: Nursing services EU M&A deal flow (2016 – 2018)



Source: inspiratia, 2018

- M&A deal value in 2017 amounted to US$3.4 billion (€2.9bn)
- The average deal size in 2017 was US$338 million (€287m), 20% lower than the 2016 average
- The largest deal in the 2015-2018 period was the Gecimed Portfolio acquisition valued at US$1.5 billion (€1.24bn)
- The largest deal in the pipeline is Bridgepoint's divestment from its Care UK portfolio, announced in February 2018 with an estimated value of US$584 million (€485 million)
- The most active market is the UK, followed by France and Germany
- Bupa, Primonial and RD Capital Partners are the most active investors

3.1 Overview

As a non-core infrastructure asset class, nursing services provide many similar features to hospitals in terms of asset regulation and staffing models. The data in Figure 2 reveals a similar pattern of deal flow to the healthcare sector over the last three years.

In this report, nursing services are split into child and elderly care. The data shows greater activity in elderly care as opposed to childcare, in line with the EU's aging population, as there were three deals closed in childcare, against 30 elderly care deals. These two subsectors are driven by the need to make good provision for two vulnerable social groups and so safety and a high standard of care are at the forefront of regulations.

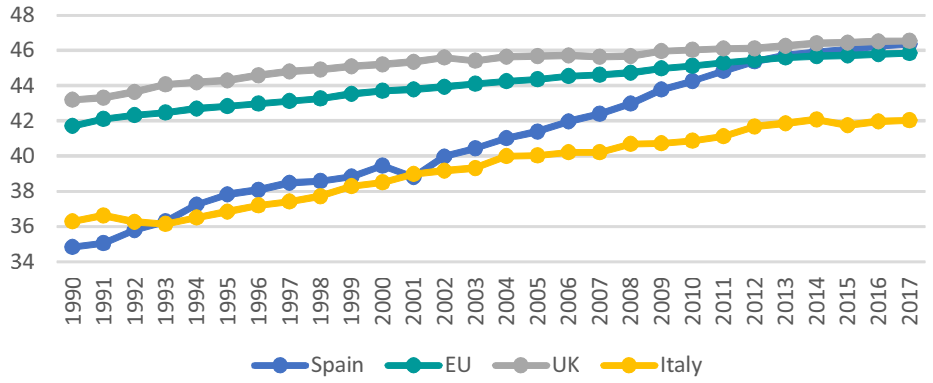
Nuclear families in developed countries are centred on two working adults and care for the elderly is becoming ever more challenging, so nursing services in the EU are increasingly in demand.

According to the OECD, women in the UK and Denmark at the age of 65 have a further life expectancy of 20 years, which increases to 23 years in France and Spain. As the EU's aging population has become less independent for longer periods of time, changes to elderly care services have been necessary to take the strain.

Since the aging population now also suffers more complex, chronic diseases, care facilities are evolving to support residents with continuing medical conditions who may also lack some mental or physical capacity, but do not need necessarily to be hospitalised.

Fertility rates have generally registered a downward trend across the EU since the 1960s (barring a slight, unsustained upturn from 2003 to 2008). Unemployment rates have been falling steadily in the EU since the end of 2013 according to Eurostat, and specifically female workforce participation is increasing across all major EU countries, according to World Bank data displayed in Figure 10.

Figure 10: Percentage of females in the labour force (1990 – 2017)



Source: World Bank, inspiratia, 2018

In combination, these statistics mean there are fewer constant domestic care providers to support vulnerable individuals. As such, this industry in particular has required the

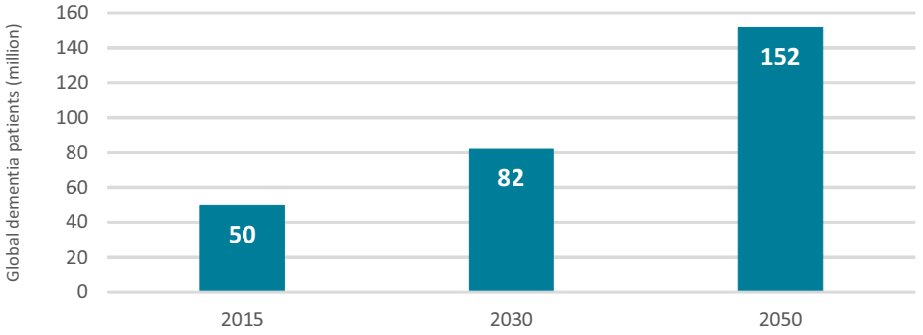
involvement of the private sector as governments of EU member states struggle to find funding to maintain good quality care homes against the rising cost of state healthcare, pensions and childcare.

Further to this, as governments have failed to address the quality of elderly care provision, the affluent baby boomer generation has reached retirement and they are managing their old age. Fear of systemic under-provision in standard, state-run elderly care facilities has led to an increase in the number of high quality, self-funded care homes and retirement villages.

The prolonging of old age has changed the business structure of these assets too, especially as retirement homes move towards a long-term lease model, rather than shorter term tenancies, turning them more into real estate than healthcare assets.

The licensing and regulation of care homes differs across the EU. In Nordic countries, care homes are fully outsourced, with operators holding contracts with the state for between 3-10 years. In the UK, the sector is overseen by the Care Quality Commission which also regulates hospitals and healthcare more broadly.

Figure 11: Worldwide dementia forecasting (2015 – 2050)



Source: World Health Organisation, inspiratia, 2018

The world has seen an increase in numbers of people suffering from various forms of dementia and it is forecast to continue rising as seen in Figure 11. As such, more attention has also been paid in recent years to infrastructure as a way of assisting the elderly with dementia care and disabled accessibility. Regulations on construction and renovation specifically have increased.

Within the UK's elderly care sector, the standards outlined in the National Institute for Health and Care Excellence's (NICE) pathway need to be met to accommodate dementia patients in the elderly population. This is a significant percentage of this demographic since, according to Dementia Statistics Hub, 7.1% of the UK's population over the age of 65 has some form of dementia.

Regarding childcare, families require stable, stimulating childcare environments, hence regulation of the sector focuses on safeguarding and welfare. In the UK, early years childcare facilities are regulated by the Office for Standards in Education (Ofsted), the UK's education regulator, which evaluates welfare, learning and development, and suitable premises.

3.2 Deal flow

The two top sponsors in nursing services by deal count are AXA and Bupa. AXA's interest in the sector is an encouraging sign for its future as it suggests institutional investor's confidence. The insurer's deal profile in nursing services also reflects a more international outlook, with acquisitions in Finland and France as well as the UK.

Bupa and HC-One were the two most active sector specific investors, but with differing purposes, as HC-One is solely active in care services, so it aims to increase its market share, whereas Bupa is more broadly active across hospitals, dental services, insurance and care, so it is looking to diversify its offering further. Both players are only making acquisitions in the UK market, making an international portfolio unlikely.

HC-One is currently in the midst of its own divestment for an estimated £1 billion (€1.14bn, US$1.33bn), and interested parties are reported to include AMP Capital, Antin, KKR along with a variety of US REITs and Asian insurers. HC-One's current owners are a consortium including Stepstone and Court Cavendish, which may look to increase their share, together with Formation Capital, the US REIT HCP and Safanad.

Deal counts in nursing services across the EU have trended upwards on average in the last three years but have not necessarily been consistent on a quarter by quarter basis. Interestingly, the deal count for the first quarter of 2018 (eight deals closed) is already at half the number of deals closed throughout 2017. It is harder to forecast where transaction volumes are headed, since deal values are often not disclosed. Over the last few years, available transaction volumes have varied, averaging US$426 million (€354m) in 2016 and then US$338 million (€280m) in 2017.

Real estate fund manager Primonial REIM recently invested in two projects in France, both in the elderly care sector. The sector's largest acquisition in the EU in recent years was the US$1.5 billion (€1.35bn) Gecimed Portfolio acquisition, closed in Q3 2016, in which Primonial REIM acquired a healthcare division from Gecina in France. In this deal, Primonial REIM was backed by a number of institutional investors including Aviva, Suravenir and a fund managed by Amundi Real Estate. This deal highlights institutional backing of deals in the sector and shows confidence in the future of this market.

The UK's elderly care market has been fairly fluid in recent years, which has allowed for larger deals like HC-One's acquisition of 110 care homes from Bupa for approximately £300 million (US$402m €341m). In the childcare subsector, UK-based provider Bright

Horizons acquired the high-end Asquith Nurseries portfolio for £60 million (US$82m €68m) in Q4 2016. Bright Horizons is looking to expand its international portfolio and has already acquired over 900 global assets.

Despite Ireland's relatively young population in comparison to the EU average, it is still possible to find valuable deals in the jurisdiction. For example, in June 2017, InfraVia European Fund III acquired Ireland's nursing home operator from Emerald Investment Partners for approximately US$84 million (€70m). CareChoice operates six care centres in Dublin, Cork and Waterford.

Finland has also seen a number of transactions in this area, including eQ Care's acquisition of 27 nursing homes from Northern Horizon Capital's Healthcare I fund in Q1 2016, in a deal valued at US$168 million (€139m).

In terms the pipeline, the Care UK portfolio sale was announced in February 2018. It is being divested by British buyout firm Bridgepoint and bids for the sale were due in March 2018, although they have not been announced.

The deal will incorporate 118 care homes with approximately 8000 beds, in a business model that is less dependent on government subsidies than many other competitors in the UK sector. This private funding-focused business model makes it less open to policy change risk, but it could also be a hinderance, if the UK economy faces further economic pressure in the years ahead.

3.3 Market risks

Regulation across the nursing services industry has become more stringent which, when compounded by the fragmentary nature of both the assets themselves and the regulating bodies across EU jurisdictions, could make collating a portfolio in the sector difficult.

Even more so than in healthcare, nursing services are an expense that governments are happy to unburden themselves of to every possible extent, particularly considering the increasing pressure of elderly care needs. This is especially the case since nursing services are rarely state-owned across the EU, and the standard of care provided in state-run elderly care facilities is generally not regarded as high.

There is a gap in the market between wealthy, self-funding residents and underprivileged individuals reliant on state funding, where there has consistently been insufficient investment. Should this gap continue, there will be a shortage of facilities to house the aging population bubble, while investors fail to capitalise on this developing sector of the market.

It is, however, understandable that private investment is reluctant to enter this space; the cash flow involved is less reliable than both the higher end of the market and

government subsidies, and so could lead to inefficient leasing and losses for care providers.

Recent changes to business models in elderly care have allowed for further security in the cashflow of care facilities. However, the caveat is that once the baby boomer generation has passed, there will likely be fewer people who are well-off to fill these beds, which could result in a decreased value in these facilities.

EU demographic changes have also created challenges for the childcare sector, as fertility rates fall across the board. However, female participation in the workforce is consistently on the up across major EU countries, and children's attendance at nursery school is also reflected in a country's improved economic performance.

During a recession, low employment rates lead to decreasing attendance rate at nurseries as parents with more time look to reduce childcare costs, making the sector more vulnerable to economic cycles. As the EU moves steadily away from the financial crisis, the childcare sector becomes more stable, but there still remains a risk, along with declining birth rates.

Long-term risks to the sector are generally political; the market is particularly vulnerable to changes in political and social attitudes to the female workforce and children's early development. Where governments and local authorities are short on funds, childcare can be seen as a burden. If unemployment increases or social attitudes move towards reasserting traditional masculine and feminine roles, more care provision could be taken back into the home.

3.4 Future trends

Mirroring healthcare, efficiency has been a significant factor in the secondary market for private investment in nursing services; by consolidating assets, costs of equipment, resources and insurance can be reduced across a larger network of care facilities.

In the past, nursing services in child and elderly care have been modest family businesses with a small number of assets, but as more pressure has been put on these facilities, structural changes have occurred in the sector to keep up with demand. The UK has the most M&A activity in the EU, and its elderly care sector is comfortably in the secondary market stage. Further brownfield activity looks set to continue and greenfield activity should increase as an aging population reaches retirement in ever greater numbers.

Domestic care can be seen as incompatible with modern families and not in the best interests of elderly individuals with complex needs, so more specialised facilities of the highest quality are emerging. The caveat to this is that the baby boomer population bubble will not sustain the luxury care-home asset class indefinitely, perhaps only for the next 20-30 years. On the other hand, state-funded care cannot sustain the lifestyles to

which some residents are accustomed nor maintain a suitable standard of care in some cases.

The more reliable revenue stream of affluent residents may be an attractive option but, to widen market share, more investors may seek to provide for less wealthy individuals, balancing the wider market share against the risks of government policy and finite equity.

More families have two working parents, thereby increasing household incomes, so regions such as the UK and the Nordics, where government policy encourages access to nurseries, see enthusiastic engagement with childcare. This allows for cash flow into these facilities to remain reasonably stable.

The childcare subsector has also seen demand for a better quality of facilities and education at day care centres, as the link between stimulating environments early on in life and positive development in children's learning has been evidenced.

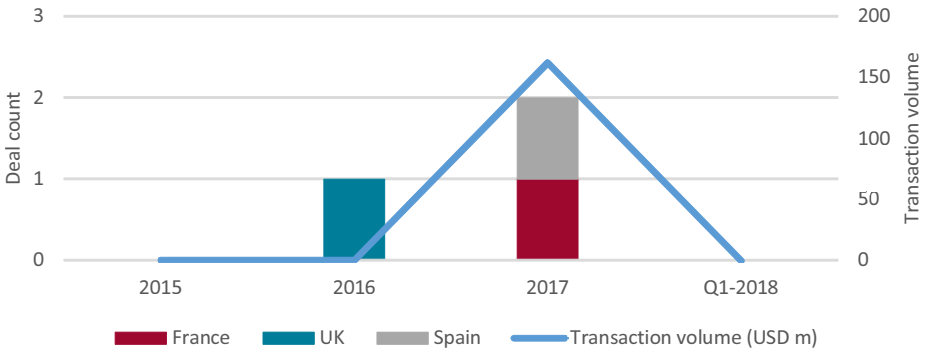
Table 2. Nursing services deals (2015 – 2018)

Deal	Country	Buyer	Seller	Date	Capex	Status
Portfolio of 110 UK Care Homes	UK	HC One	Bupa	15/12/2017	$402m	Financial close
Belgium Senior Care Homes Portfolio	Belgium	Senior Assist Intl.	Cofinimmo	6/1/2016	$200m	Financial close
CareChoice Irish Nursing Home	Ireland	InfraVia European Fund III	Emerald Investment Partners	1/6/2017	$79m	Financial close
Renaissance Villages	UK	Legal & General	Helical Plc.	1/10/2017	$71m	Financial close
Gecimed Portfolio	France	Primonial	Gecimed (Gecina)	26/09/2016	$1.5bn	Financial close

Source: inspiratia, 2018

4. Funeral services and crematoria

Figure 12: Funeral services EU M&A deal flow (2016 - 2017)



Source: inspiratia, 2018

- M&A deal value in 2017 amounted to US$162.4 million (€134.9m)
- The largest deal in the 2015-2018 period was the Mémora crematoria acquisition in July 2017
- The most active markets are the UK, Spain and France
- OTPP, USS and Pamplona Capital Management are the most active investors

4.1 Overview

The end-of-life journey includes funeral directors, crematoria and cemeteries. Given low correlation of these assets with the economic cycle, it is not surprising that these services are increasingly considered infrastructure assets. These three market segments are significantly fragmented, offering opportunities for both consolidation and vertical integration.

In the UK, the funeral industry is dominated by Co-op Funeralcare and the London Stock Exchange-listed Dignity, which together cater for approximately a quarter of UK funerals. The remainder is represented by a multitude of small and independent funeral directors, often family-owned, so consolidation plays are not uncommon.

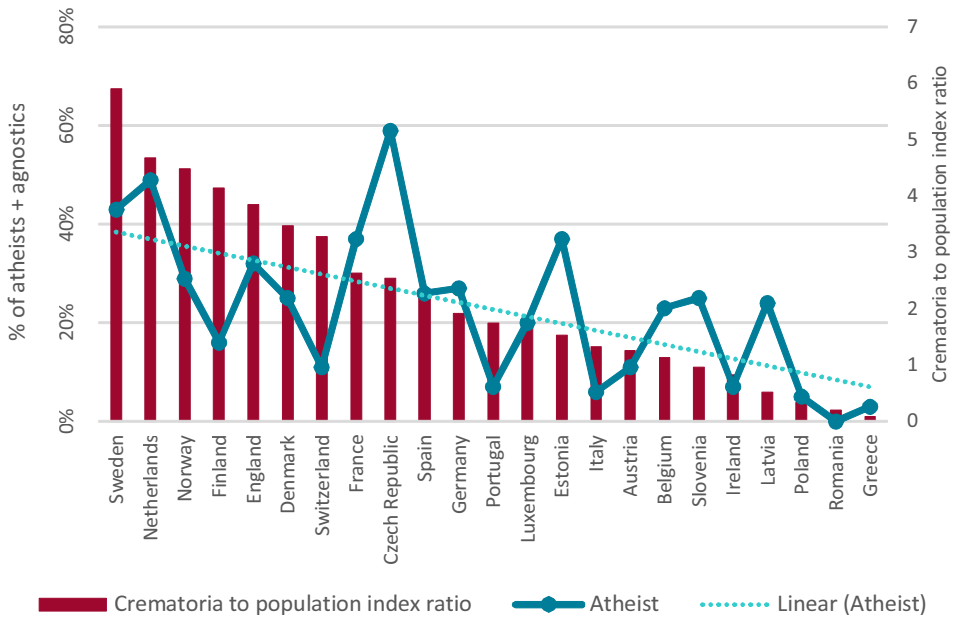
Across Europe, crematoria and cemeteries are often owned by municipal authorities but, in some countries such as the UK, also by private players. The funeral directors and cemeteries markets are relatively stable, as the number of deaths tends to be constant on a yearly basis. In the UK, they amounted to 525,048 in 2016, a 0.9% decrease compared to 2015.

When open to private investment, cemeteries are an attractive investment proposition; given the complexity of planning applications for new facilities, incumbents can generally rely on stable revenues.

On the other hand, cremation rates have a high growth potential. Overall, this market appears to be highly fragmented, with a large presence of boutique independent funeral directors. Such a landscape has led some funeral service companies to acquire crematoria.

The main drivers behind the increasing appeal of cremation over burial are lower costs and a lack of appropriate burial space. Changing religious attitudes towards cremation are also an important factor, as well as individual concerns such as the natural aversion to corporeal decomposition, or the fear of premature burial.

Figure 13: Crematoria to population ratio against rates of atheism (2018)

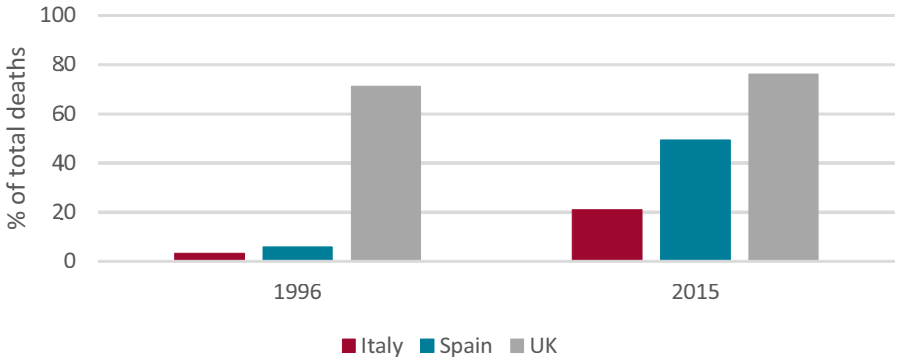


Source: Eurobarometer, inspiratia, 2018

Cremation rates vary considerably across the world, as they are heavily influenced by cultural and religious attitudes. According to the Cremation Society of Great Britain, 99.98% of the deceased population were cremated in Japan in 2016, while only 0.42% chose to be cremated in Romania. This clearly reflects respectively Buddhism's positive and Orthodox Christianity's negative views on cremation.

In certain EU countries, there has been a clear shift in recent decades from burial to cremation as a consequence of both secularisation and changing Christian attitudes towards incinerating the deceased. According to the Cremation Society of Great Britain, the UK's cremation rate increased from 0.07% in 1900 to 79.75% in 2014, reflecting a profound cultural change.

Figure 14: Cremations as a percentage of total deaths (1996 – 2016)



Source: Cremation Society of Great Britain, inspiratia, 2018

Historically Catholic majority countries in the EU such as Poland (24%), Italy (23%) and the Republic of Ireland (18%) still tend to have much lower cremation rates compared to Protestant majority countries such as Switzerland (84%), Denmark (82%) and Sweden (80%).

However, attitudes towards cremation are also changing in Catholic countries. While Catholic authorities did not traditionally have favourable views towards cremation, official positions have evolved in recent decades. In 2016, the Vatican's Congregation for the Doctrine of the Faith published the instruction "Ad resurgendum cum Christo", clearly stating that, although burial of the bodies is still the preferred option, "cremation is not prohibited".

However, the Church neither permits the conservation of ashes at home nor the scattering of ashes as it believes they should be preserved in a sacred place such as a cemetery.

4.2 Deal flow

The steady cash flow of this sector makes it an attractive proposition for institutional investors, as demonstrated by the 2016 acquisition of UK cemetery and crematoria developer Westerleigh Group by Ontario Teachers' Pension Plan (OTPP) and Universities

Superannuation Scheme (USS) from Antin Infrastructure Partners. In France, OTPP also acquired a 33% stake in OGF from Pamplona in 2017.

In most EU markets, the funeral and crematoria businesses are still fragmented, given the prevalence of small independent operators, and so this offers substantial opportunities for consolidation. In France, the main industry players are OGF, which operates 576 funeral homes and 78 crematoria, and Funecap.

In February 2016, OGF acquired UK funeral service provider Atrium from the Saur Group, active in wastewater treatment. In the Iberian Peninsula, OTPP-owned Mémora manages 125 funeral homes, 26 crematoria and 23 cemeteries. Another important actor in the EU market is Belgium's Dela, which runs 64 funeral directors and 4 crematoria.

LM Funerals was acquired in 2012 by Duke Street Private Equity from Sovereign Capital, and then sold to Dignity in July 2015 for US$102.5 million (£75m €85.2m). Dignity currently owns 45 crematoria in the UK, five of which were acquired by Co-op Funeralcare in 2016 for US$58.8 million (£43m €48.8m), as well as 19 cemeteries.

As mentioned, in the UK the consolidation process is well under way: funeral services group Dignity not only expanded horizontally, by acquiring other funeral directors, but also vertically as it now operates a significant number of crematoria and cemeteries.

Deal flow in recent years, including the increased diversification of assets within the portfolios of major players, demonstrates that crematoria have indeed secured their position as a viable social infrastructure asset class. In some countries, regulatory barriers may prevent private operators from entering the crematoria and cemeteries market if these are operated by local authorities, which in turn would prevent funeral service providers from pursuing vertical integration.

4.3 Market risks

There is another challenge that could potentially limit the expansion of cremation. While it would be easy to assume that crematoria, by significantly decreasing land use, are more environmentally friendly than burials, the reality is in fact more complex.

Indeed, cremation produces several environmental side effects, as furnaces are often fired by oil or natural gas. The combustion of remains also generates several pollutants, in particular greenhouse gases such as carbon dioxide and nitrogen dioxide, while coffins can produce highly toxic dioxins. Cremation is also a source of emission of heavy metals, such as mercury fumes, generated from the incineration of dental fillings.

The combined effect of the increase in cremation and of a higher number of fillings per cadaver, due to increased life expectancy, could contribute to a further escalation of the problem. However, in recent years the industry has made strides to become more

sustainable, for example by reducing carbon emissions, purchasing electricity from renewable energy and producing environmentally friendly coffins.

4.4 Future trends

Regarding the funeral directors' industry, opportunities are considerable for large players to acquire boutique business. Often, after the acquisition, family-owned operators retain their old brand to maintain traditional relationships with and recognition in the local community.

Even more significant business opportunities are likely to materialise in the crematoria business. Changing religious attitudes are likely to continue to be a major driver in the increase of cremation in the EU, especially among Catholics. The appeal of cremation is set to increase because of its cost-effectiveness when compared to burial. Burial costs tend to be significantly higher than cremation, as they include the highly specialised and expensive practice of embalming, which is employed to delay decomposition.

A major driver behind cremation increase will be demographic trends, as the EU's aging population will require more facilities to meet expected demand. The share of population over 65 has increased in the EU over the past decade, with the relatively affluent generation of baby boomers about to enter the elderly population. Another market which is set to expand is represented by related ancillary services, such as limousines and hearses, coffins, catering and flowers.

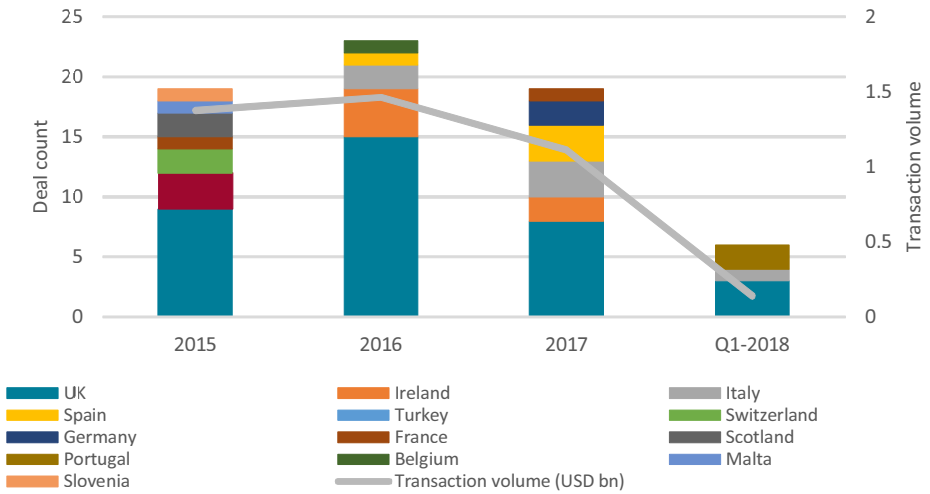
Table 3. Funeral services and crematoria deals (2015 - 2017)

Deal	Country	Buyer	Seller	Date	Capex	Status
Mémora Crematoria	Spain	Ontario Teacher's Pension Plan	3i Group	17/7/17	$162.4m	Financial close
Crematoria Portfolio	UK	Dignity	The Co-operative Group	6/5/16	$62m	Commercial close
33% OGF Crematoria Stake	France	Ontario Teachers' Pension Plan	Pamplona Capital Management	4/12/17	Undisclosed	Financial close
Westerleigh Group Crematoria	UK	Ontario Teachers' Pension Plan Universities Superannuation Scheme	Antin Infra Partners	20/12/16	Undisclosed	Financial close

Source: inspiratia, 2018

5. Education

Figure 15: Annual education M&A deal count and transaction volume (2015 – Q1 2018)



Source: inspiratia, 2018

- M&A deal value in 2017 amounted to US$1.1billion (€0.9bn) across 19 transactions
- The average deal size in 2017 was US$157 million (€130m)
- Deal count fell to 6 in Q1 2018, as compared to 7 acquisitions closed in Q4 2017
- The largest deal in the 2015-2018 period was the US$282 million (€234m) Eiffage French Education PPPs Portfolio Sale, which closed in November 2017
- The most active markets are the UK and Germany
- INPP, Equitix, GSA Group and Dalmore Capital are the most active investors

5.1 Overview

Public sector education facilities that have been opened up to private sector investment in the form of a public-private partnership, have long been a hotly contested proposition firstly at a greenfield stage and then also in the secondary market, once operational.

Until recently, the UK had rolled out a far-reaching schools PPP programme, which brought hundreds of procurement processes to market and nurtured an industry of education investors, operators and contractors in the process. Projects of this kind are usually closely linked to local education authorities, with mature concession-based

frameworks and clear apportionment of risk, resulting in an attractive proposition for infrastructure investors.

However, the pipeline of greenfield projects procured through the UK's Private Finance Initiative programme (PFI) all but dried up following the financial crisis, as project costs initially increased in the wake of the economic shock. This has since given way to significant parliamentary and public opposition to the method, compounded by calls to end the practice by the opposition Labour Party, the collapse of Carillion and an ambivalent report on the merits of PFI released by the National Audit Office earlier in 2018.

Other countries, such as France, have of late focussed efforts on higher education, which has delivered a number of university PPPs to market, offering openings to mostly French, but also international investors. This pipeline primarily arose due to the French government's Plan Campus investment programme focussed on 12 higher education institutions across the country.

Both commercial lenders and capital markets have been called upon to finance these projects, demonstrating the appetite for such propositions. However, the last of the 12 has now been financed, with a package signed off in April 2018, raising the question of where future deal flow will stem from. That being said, the secondary market could receive a boost in a few years once the new facilities are up and running and possess demonstrable track records.

Meanwhile, the market for private education offers a number of models in which to invest. Firstly, independent schools have long histories in several countries across the EU of offering access to first rate education and advantageous alumni networks for students.

Additionally, the reputations of several schools in the EU have become world-renowned, stoking demand from all parts of the world for a private education in the continent. Taking the UK as an example, it is estimated that more world leaders are educated in either its private schools or universities than any other country in the world, further boosting its reputation among aspirational and wealthy parents from across the globe.

While these prestigious institutions are experiencing significant demand, the ownership structures in the market are still relatively fragmented, offering opportunities for larger players to build portfolios. However, moves in this direction are well underway as private equity players investing in education platforms are providing the capital required to undertake such expansions.

On the flipside, the markets for international schools within the EU, where expatriate students are often taught in either or both of the local tongue and their native language,

is also on the rise as increasing numbers of workers move around the continent for employment opportunities.

5.2 Deal flow

Recent transactions to hit the headlines include the sale by Eiffage of its interest in three French education PPPs to the Paris-based private equity house Demeter Partners. The US$282 million (€240m) deal saw shares in university and school concessions change hands in November 2017, with the French contractor retained for operation and maintenance duties.

Meanwhile, Laureate Education also in November 2017 sold two institutions in Italy and one in Cyprus to Galileo Global Education for US$263 million (€225m). The schools encompass two private fine arts academies and a leading medical and dentistry centre. Galileo is owned by asset manager Providence Equity Partners, which claims to be one of the world's largest private equity firms, focusing on media, communications and information sectors, as well as education.

And Galileo is just one of several education platforms ultimately owned by players such as Providence. Other such groups owning education specialists that have made acquisitions during the period covered by this report include Lioncourt Investments, Partners Group, Verlinvest, Oakley Capital and KKR, among others.

5.3 Market risks

There are capital-intensive barriers to entry and, as demonstrated, sophisticated private equity players already building platforms in this sector. In addition, schools thrive on reputations and expertise held within institution so an increased offering within the sector could create significant competition for teaching staff and top of the range facilities among rival schools.

Other regions of the world, aside from the EU, will look to capitalise on vastly expanded global middle-class population by offering competition to the EU's private school sector in an increasingly international education market.

Aside from those issues, one area that could be impacted by the UK's vote in 2016 to leave the EU is Anglo-centric international schools across the bloc. If the country's exit from the union negatively impacts its citizens' rights to work in other member states, this could impact demand for the services offered by these schools, affecting business models and revenues.

Chiefly, any amendment to current freedom of movement rights enjoyed by EU citizens when applied to the UK could deliver a fall in both the numbers of European students taking up a private education place in the country, as well as teachers moving in the same

direction for jobs. Withdrawing rights to free movement for EU citizens coming to the UK was a key tenet of those supporting Brexit in both the run up to the referendum, and in its continuing support.

However, with negotiations over the UK's future relationship with the EU still ongoing, there is little illumination of how this important pillar of membership of the bloc will be impacted. Nevertheless, the uncertainty this brings will undoubtedly influence numbers of people deciding to move to the UK for work or education.

5.4 Future trends

There is no shortage of demand for private schools in the EU as there is evidence across a number of markets that individuals educated at independent institutions have a greater range of opportunities available to them later in life. This places considerable pressures on parents to continue to send their children to private schools to improve their prospects.

One of the perennial export-led success stories for the UK economy is its world-leading private education sector, which educates tens of thousands of international students at any given time, many of which come from other European countries.

The uncertainty surrounding Brexit may benefit the private schools sector in other ways, as a fall in the numbers of students from the EU could arguably be offset by an increase from elsewhere.

There have been reports that the devaluation of the British pound in the wake of the Brexit referendum made a UK private education more competitive with countries like the US and Australia. This is a particularly important factor for parents and students in China and elsewhere in Asia, which represent the strongest driver to growth in the numbers of international students.

Furthermore, a number of the leading independent schools in the UK now operate satellite campuses educating international students around the globe, so expansion in this area could bring more facilities to mainland Europe. However, these additional campuses are often focused on major growth markets for English language education in places like the United Arab Emirates and further afield in Asia, and so the impact in Europe could be minimised as a result.

Additionally, an emergent middle class in Asia, particularly in places like China and India, is increasingly willing and able to educate their children in the EU. As the economies of these two countries in particular continue to boom, there is expected to be no let-up in the spread of wealth among their citizens. In China alone, an estimated three quarters of the country's urban population will be considered middle class by 2022, up from only 4% in 2000.

Due to the sheer number of people this statistic covers, it would only take a small proportion of the global population to consider educating their children privately in the EU to deliver a sizeable boost to demand for independent institutions across the continent.

Meanwhile, due to the interest already shown by private equity in the sector, it can be reasonably expected that other such groups will enter the market. At the same time, existing players will be keen to expand their platforms in the area with additional acquisitions.

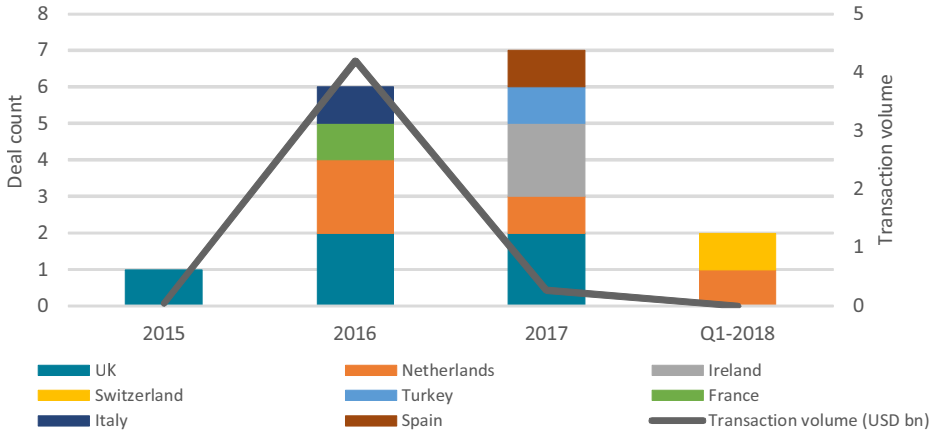
Table 4. Education deals (2015 - 2018)

Deal	Country	Buyer	Seller	Date	Capex	Status
Eiffage French Education PPPs Portfolio Sale	France	Demeter Partners	Eiffage	21/11/17	$282m	Financial close
Laureate Education Schools	Italy	Galileo Global Education	Laureate Education Inc.	29/11/17	$267m	Financial close
Schuelerhilfe Tutoring	Germany	Oakley Capital Private Equity III	Deutsche Beteiligungs AG	7/10/17	$98m	Financial close
Building Schools for the Future 10%	UK	INPP	Balfour Beatty	25/8/16	$95m	Financial close
Newham Hospital & Barnsley BSF Stake	UK	Equitix	John Laing Infra Fund	23/6/16	$64m	Financial close

Source: inspiratia, 2018

6. Data centres

Figure 16: Annual data centre M&A deal count (Q1 2015 – Q1 2018)



Source: inspiratia, 2018

- The largest deal in the 2015-2018 period was the TelecityGroup acquisition in January 2016, valued at US$3.8 billion (€3.1bn)
- M&A deal value in 2017 amounted to US$459 million (€381m), or 10% of the total volume in 2016 due to the TelecityGroup acquisition the year before
- Deal count remained at two transactions in Q1 2018, the same as for Q4 2017
- The largest deal in the pipeline is the UK Interoute acquisition valued at US$2.3 billion (€1.9bn) in February 2018
- The most active market is the UK, followed by the Netherlands, Switzerland and France
- Equinix, Digital Realty Trust and InfraVia are the most active investors

6.1 Overview

In recent years, data centres have emerged as a *per se* market, which is driven by the volume of data traffic (massively and constantly increasing) and the advent of cloud computing.

This requires data to be stored remotely rather than on local on-site servers, has led to a remarkable increase in data centres. These facilities offer either wholesale or retail (co-location) services to corporates, ensuring first-rate connectivity, cyber security, heating and cooling. Data centres are blurring industry barriers, as it is still an open question

whether data centres should be classified as infrastructure or real estate, if not technology or even financial companies.

On the one hand, data centres are essential digital infrastructure, as they ensure the proper functioning of a global network connecting millions of computers and other devices, similar to subsea transmission cables. What is more, these assets are increasingly attracting the interest of infrastructure investment firms, such as InfraVia Capital Partners.

Conversely, data centres are often assimilated to real estate projects, given their similar risk profile. The market is dominated by dedicated real estate investment trusts (REITs) such as Equinix and Digital Realty, which allow individual investors to purchase ownership in real estate. These companies' business models are mainly based on acquiring real estate and then leasing space to enterprises, thereby securing an annuity-style fixed stream of payments.

The data centres sector is mainly divided into retail (co-location) and wholesale, usually catering respectively either to small and medium sized or large enterprises. The main players are the likes of Digital Realty Trust, Global Switch, CyrusOne, Equinix and Telehouse (a subsidiary of KDDI).

Table 5. Data centre market (2018)

Company	Headquarters	Number of data centres	Number of data centres in Europe
Equinix	Redwood City, CA	200+	73
Digital Realty	San Francisco, CA	205	38
Telehouse	London	47	10
CyrusOne	Dallas, TX	34	1
Global Switch	London	11	7

Source: inspiratia, 2018

Until recently, data centres appeared to be split between operators providing retail co-location services, such as Equinix, and wholesale players, such as Digital Realty. However, Digital Realty's acquisition in 2015 of Telx, an Equinix competitor, demonstrated that the borders between the two sectors are shifting with increasingly hybrid models likely to prevail in the future.

Besides REITs, there are also players such as NTT Communications, an information and communications technology company (ICT) that is a subsidiary of Tokyo-headquartered

Nippon Telegraph and Telephone Corporation. The presence of financial investors still appears relatively small when compared to specialist data centre operators.

6.2 Deal flow

For both incumbent and newly emerging tech companies, acquiring real estate such as data centres to store their data is not a convenient option, as tech companies tend to grow very quickly. Instead, leasing data storage capacity from operators (such as REITs) allows them to expand their operations rapidly, without having to part with upfront costs of construction or having to own the assets.

Most of the sector growth has taken place in the US, while the EU has lagged considerably. At present, data centres in the US are particularly concentrated in certain states, such as Northern Virginia (Nova) and the Silicon Valley, both of which enjoy high-speed connectivity and proximity to their customer base.

Nova, in particular, is considered the world's largest data centre market, because of low latency connection to fibre optic networks and its closeness to US federal government agencies; both Digital Realty and Equinix (as well as the former DuPont Fabros) own significant properties in the area.

Some of the largest sector deals of 2017 included Digital Realty's acquisition of rival DuPont Fabros for US$7.6 billion (€6.3bn), the acquisition by Equinix of 29 Verizon data centres, situated in the US and Latin America, for US$3.6 billion (€2.9bn), and the acquisition of CenturyLink's data centres by a partnership of BC Partners and Medina Capital. The consolidation plays that occurred in the US last year give an idea of what could happen elsewhere, once the market properly takes off.

In the EU, one of the largest transactions so far was the US$3.8 billion (€3.1bn) acquisition of TelecityGroup by industry leader Equinix. With this acquisition, Equinix added more than 40 data centres to its portfolio, including new locations in Bulgaria, Finland, Ireland, Italy, Poland, Sweden and Turkey. Such a transaction clearly illustrates the increasing international reach of the market leaders, eager to cater to a global customer base.

Another notable transaction was the acquisition in December 2017 by InfraVia European Fund III of Green Datacenter and green.ch, companies that operate five data centres in Switzerland, for US$217 million (€180m) from Netherlands-based telecoms company Altice.

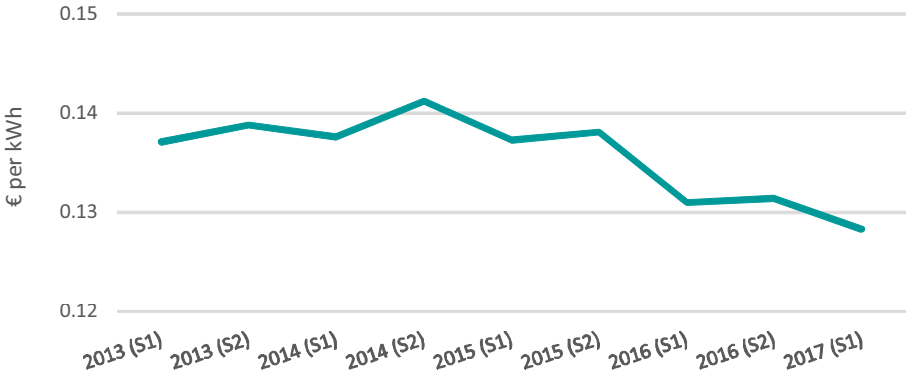
InfraVia European Fund III previously acquired a majority stake in Welsh data centre operator Next Generation Data (NGD) for approximately US$136 million (£100m €133m) in July 2016. The asset is privately connected to the grid, enjoying a 180MW renewable

power supply from Dynorwig hydroelectric power plant. NGD operates one of the largest data centres in the EU in Newport, South Wales, with a surface area of 70,000 m^2.

6.3 Market risks

While the sector clearly provides a wide range of opportunities, there are still fundamental challenges, such as procuring low-cost power for energy-intensive data centres. For greenfield investors, it is crucial to consider the huge electricity needs of data centres, which are set to be increasingly powered by renewable generation, as shown by Wales' hydro-powered NGD.

Figure 17: Cost of electricity in the EU (2013 - 2017)



Source: Eurostat, inspiratia, 2018

Since the volatility of energy prices can negatively impact data centre costs, data centres will increasingly enter into power purchase agreements (PPA) with renewable energy producers to ensure their energy supply while meeting sustainability goals. Power Usage Effectiveness (PUE), a measure of the power efficiency of IT equipment, is a critical parameter for data centres.

Regulatory risk cannot be ignored either; in recent years, the European Commission (EC) has cleared a number of mergers involving data centres without imposing any condition or obligation, given that in those cases data centres represented a sub-segment of the merging entities.

The Equinix/Telecity case, however, can be considered the first case assessed under the merger control regime in the EU where data centres were the core business of the merging parties. In this case, the European Commission found that the contentious points were the specific data centre colocation activities, the geographically

concentrated locations, the high barriers to entry for new participants regarding spare power and construction periods, and the horizontally overlapping activity.

Therefore, the conditions imposed on Equinix to allow European Commission approval of the operation required the company to divest two data centres in Amsterdam, five in London and another one in Frankfurt to Digital Realty. These divestments included the assets and personnel, because they were necessary to ensure the viability and the competitiveness of the divestment, and the benefit of the fibre optic leases connected the network equipment was also transferred to the purchaser.

Entry barriers to the sector are rising as industry leaders such as Equinix and Digital Realty, which can count on a lower cost of capital than smaller players, are growing through consolidation plays. The companies are also increasingly blurring industry boundaries and possess internationalisation strategies. As industry leaders, these groups are particularly appealing to customers as they allow their corporate clients to extend their global reach through a presence across the world.

Data centres are sensitive to the economic cycle, with a recession likely to halt both the primary and the secondary market. Political risk is also a factor as the issue of data sovereignty, for example in a post-Brexit environment, could limit London's position as a leading EU hub, prompting a corresponding growth in the EU27.

Finally, technology risk could potentially have disruptive effects, by making existing data centres obsolete, for example through storage miniaturisation, although it is difficult to assess how likely this is.

Since a lack of understanding of data centres is often an obstacle for investors, the latter are set to increasingly partner with data centre operators or telecommunications companies.

6.4 Future trends

Among the six asset classes examined in this report, data centres are more likely to undergo rapid growth, primarily in terms of the construction of new greenfield projects, in the years and decades to come. While other sectors analysed in this report, such as hospitals, healthcare and education, are primarily impacted by the interplay of demographic trends such as mortality, fertility and migration, for data centres the main driver is technological innovation.

The next wave of disruption will arrive with the rollout of 5G broadband, a key enabler of Internet of Things (IoT) applications, such as AVs. Self-driving cars will generate, according to estimates, more than 4 terabytes of data (4,000GB) for every eight hours of driving, leading to a massive increase in data storage needs.

As mentioned, the scale of acquisitions in the EU is still considerably lower than in the US, suggesting that the potential for growth is significant. As such, it is reasonable to expect an expansion of greenfield data centres in the EU comparable to that of the North American market, to be followed by waves of secondary activity. Based on US trends, the regions with the highest data centre potential within EU countries are those close to leading government agencies and economic hubs, while also enjoying high-quality internet connections, low-cost power supplies and are relatively safe from natural hazards such as seismic threats.

Infrastructure investors assessing the sector are likely to benefit from a first-mover advantage, especially with the EU's market still in its infancy. At the moment, the EU's secondary market is limited by a relative scarcity of operational assets compared to the US, but there are few doubts that the 5G-driven digitalisation of society and the ongoing process of corporate outsourcing of data storage will lead to an uptick in the construction of large facilities.

EU greenfield data centre projects tend to be concentrated in the main business hubs of London, Paris and Frankfurt, while the markets in countries such as Italy and Spain are significantly underdeveloped, presenting considerable expansion potential.

Data centres often offer long-term leases to financially robust tenants, therefore offering an opportunity to institutional investors looking for long-term, steady cashflows. Often incorrectly considered as nothing more than expensive warehouses, data centres actually require highly specialised skills to be safely operated and managed, compensating investors with fairly high returns.

The data centres industry has continued to grow, thanks to the relatively high dividend incomes it provides (REITs often offered double digit profits in recent years), the continuous supply of capital by investors and the security and scalability they offer to their clients. It is therefore to be expected that institutional investors will be increasingly involved in the construction of greenfield facilities, in the purchase of operational assets as well as in the acquisitions of data centres operators, a trend that is already happening in several continents.

For example, in March 2017, data centre provider Vantage Data Centres was acquired by a consortium comprised of communications infrastructure company Digital Bridge, Public Sector Pension Investment Board (PSP Investments) and TIAA Investments, an affiliate of Nuveen.

In addition, in October 2017, the Canada Pension Plan Investment Board (CPPIB) partnered with Alpha Investment Partners and Keppel Data Centres (both part of Singapore's Keppel Group), to invest US$350 million (€290m) in data centres in Asia Pacific region and the EU.

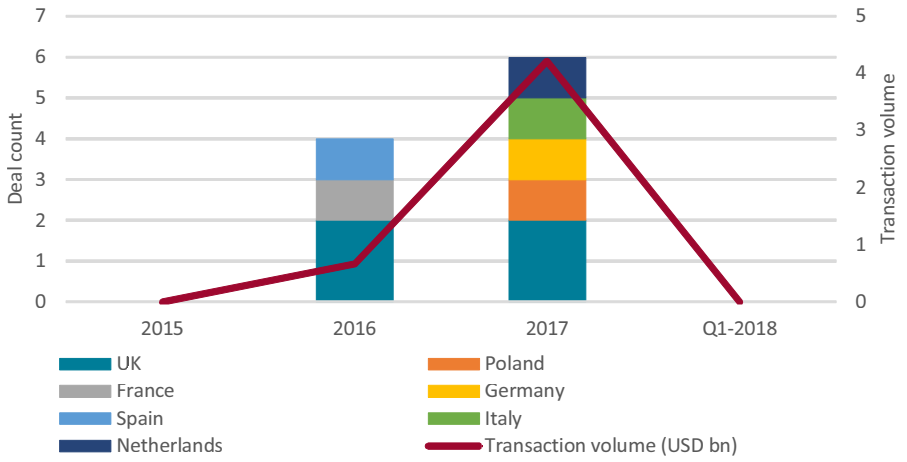
Table 6. Data centres deals (2015 - 2018)

Deal	Country	Buyer	Seller	Date	Capex	Status
Interoute	UK	GTT Communications	Interoute	26/2/2018	$2.3bn	Commercial close
Zenium Data Centre	UK	CyrusOne	Zenium	21/12/ 2017	$442m	Commercial close
Equinix Data Center Portfolio	UK, Netherlands, Germany	Digital Realty Trust	Equinix	16/5/2016	$874m	Approved/ Consented
Green Datacentre and green.ch	Switzerland	InfraVia European Fund III	Altice	22/2/2018	$222m	Financial close
Infracom Acquisition	Italy	F2i Fondi Italiani per le infrastrutture, Marquerite	A4 Holding	28/7/2017	$160m	Financial close
TelecityGroup	UK	Equinix	Telecity Group	15/1/2016	$3.8bn	Financial close

Source: inspiratia, 2018

7. Car parks

Figure 18: Annual car parks M&A deal count and transaction volume (2015 – Q1 2018)



Source: inspiratia, 2018

- M&A deal value in 2017 amounted to US$4.2 billion (€3.4bn), 534% higher than in 2016
- The average deal size in 2017 was US$842 million (€699m) with six transactions in 2017
- The largest deal in the 2015-2018 period was the US$3.5 billion (€2.9bn) Q-Park acquisition which closed in October 2017
- The largest deal in the pipeline is the Empark Spanish Car Park Operator acquisition valued at US$571 million (€475m)
- The most active market is the UK, followed by Spain and the Netherlands
- KKR, Ardian Infrastructure and Macquarie are the most active investors

7.1 Overview

In 2014, according to car park operator Q-Park, the EU car park market comprised 440 million parking spaces. While the potential market is extremely large, the industry is still remarkably fragmented. Multi-storey car parks are often operated by municipalities, as well as by shopping malls, cinemas and airports, while unregulated on-street parking is still very common.

Almost all the major EU countries, with the exception of Italy and Ireland, have large domestic players. Some of the largest market participants include France's Indigo

(formerly Vinci Park), Germany's Apcoa, Netherlands' Q-Park, the UK's National Car Parks (NCP), Belgium's Interparking and Spain's Empark and Saba. While car parks offer cash flow stability and high entry barriers, the main car park operators tend to have different business models, with different market exposure.

7.2 Deal flow

The EU's secondary market for car parks has seen some activity in recent quarters, with a few of the largest operators, such as Q-Park and Empark, put on sale and bought by infrastructure investors, such as KKR and Macquarie, in 2017.

In July 2017, Macquarie European Infrastructure Fund 5 (MEIF5) purchased Spanish car park operator Empark from real estate group A. Silva & Silva. Empark has 535,000 parking spaces in six countries, with a particular focus on Spain and Portugal. In October 2017, KKR completed its acquisition of Dutch car park operator Q-Park for US$3.3 billion (€2.8bn). Q-Park operates approximately 6,000 car parks in ten EEA countries.

7.3 Market risks

It is likely that, in the long-term, the mass adoption of automated vehicles (AVs) will profoundly disrupt the car park sector. Depending on the future development of the AV market, it is possible that this technology could lead to the disappearance of city car parks, in favour of the emergence of mega suburban car parks.

More speculatively, individual car ownership could become obsolete, with corporates owning vast commercial fleets. Hence, the main clients of car parks could become the likes of Apple, Uber and Waymo (Google), rather than private vehicle owners.

As such, AVs could radically displace individual ownership models, disrupting the business model of car parks as a whole. However, the nature and the timelines of the changes is still largely theoretical. Nevertheless, it is worth mentioning that some greenfield car parks are already being planned in view of a potential reconversion to other uses after a few years.

7.4 Future trends

Opportunities in the car park sector are due to rise, given the shift from free on-street parking to privately managed models. In large cities, cruising for parking spaces is often not only time-consuming and stress-producing, but it also significantly increases overall traffic, fuel consumption and polluting emissions.

Digitalisation could not only be a major driver in the development of innovative car parks, but also provide information to drivers on available on-street and off-street parking places via vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I)

communication. Digitalisation will have a major impact on both greenfield and brownfield developments.

New car parks are likely to be further digitalised and automated, reducing operational costs and increasing asset productivity. In particular, automated parking systems (APS) will optimise the number of parking spaces and reduce land consumption, though requiring higher up-front costs for the operators.

Existing car parks, which are approaching the end of their life-cycle, could be retrofitted to significantly increase car occupancy. In addition, the increasing digitalisation of car parks, combined with pervasive video surveillance, is set to further reduce the number of staff necessary to maintain and operate car parks.

EVs are increasingly present in EU countries, and the International Energy Agency (IEA) expects that there will be 200 million EVs globally by 2030. The capital-intensive requirements of installing EV infrastructure will provide a further barrier to entry in the car park market. This opens up an opportunity for the market to be dominated by a few major players with sizable capital reserves and considerable manoeuvrability, while also eliminating the presence of smaller car parks entities without the ability to comply with future safety regulations.

The car park industry will also benefit from additional embedded connectivity features, as dedicated apps will allow drivers to find parking spaces through smartphone apps. All of these technological changes will increase upfront equipment costs, and further raise entry barriers.

One important ongoing transformation concerns the impact of mobility as a service (MaaS), which include ride-sharing apps such as Uber, as well as car sharing services. While it would be easy to assume that the adoption of car sharing could hinder the car park industry, MaaS is not necessarily leading to a decrease in the number of cars circulating but is creating more multimodality.

As mentioned, the car park industry in the EU is already going through a process of consolidation. Italy seems the only major EU country that does not have a comparable leading player, hence presenting remarkable opportunities for consolidation plays. Still, even the most mature EU markets are very fragmented, presenting significant opportunities for acquisitions.

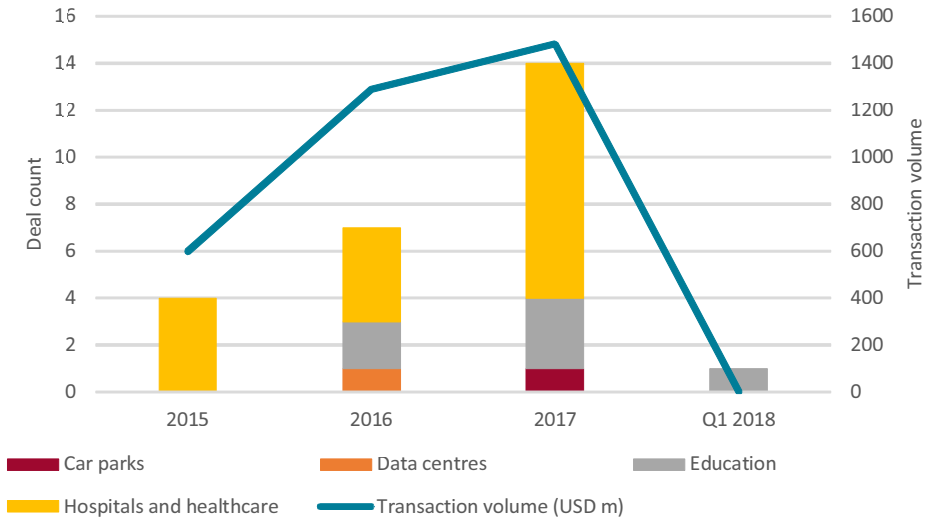
Table 7. Car parks deals (2015 - 2018)

Deal	Country	Buyer	Seller	Date	Capex	Status
Ardian Indigo Parking	UK	Macquarie, Cheung Kong Infra Holdings	Ardian, Predica	9/5/2017	$5.2bn	Bids submitted
Q-Park	Netherlands	KKR	Various investors	15/10/2017	$3.5bn	Financial close
Empark Spanish Car Park Operator	Spain	Macquarie European Infra Fund V	A. Silva & Silva Group	26/10/2017	$553m	Commercial close
Parkia Spanish Car Parks	Spain	First State	EQT, Mutua Madrileña	27/6/2016	$450m	Financial close
National Car Parks Sale	UK	Park24, Development Bank of Japan	Macquarie European Infra Fund II	8/3/2017	$410m	Financial close

Source: inspiratia, 2018

8. Non-core infrastructure assets in Italy

Figure 19: Italy non-core M&A deal counts by sector (2015 – 2017)



Source: inspiratia, 2018

This chapter focuses on the development of the secondary market for non-core infrastructure assets in Italy including:

- hospital and healthcare services
- nursing services
- funeral services
- education
- data centres
- car parks

The maturity of these assets varies considerably on a national and regional level. Hospitals and education, which saw significant greenfield investment in the early part of the 2000's, are now comfortably in a secondary market stage, whereas data centres, nursing services, funeral services and car parks are still struggling to become established markets in Italy, due to ongoing development, social obstacles and regional fragmentation.

Markets with existing assets such as nursing homes and car parks could benefit from consolidation moves. However, some Italian non-core asset classes, such as funeral services and data centres, would require considerable greenfield activity before a mature market for considerable M&A activity could be established.

As seen in Figure 19, Italy's activity in the specified non-core asset sectors has increased by over threefold and diversified, from four transactions occurring in the hospital sector in 2015, to 13 projects in hospitals, education and car parks in 2017. As such, the activity has primarily been pushed by hospitals and healthcare. Crematoria and nursing homes are significantly under developed in the country, and there are substantial societal impediments to these sectors taking off.

With the exception of hospitals and healthcare services, where Italy experienced a significant deal flow, most non-core infrastructure assets appear relatively underdeveloped compared to other EU countries.

There are a variety of reasons why these markets have yet to emerge fully, many of which are specific to each sector. In general, the regional deviations in culture, wealth, regulation and innovation across the country would make a nationwide initiative difficult to implement, but carefully tailored investments and acquisitions could be worthwhile.

8.1 Hospitals and healthcare

Italy's private healthcare sector, like the UK's, sits alongside its public healthcare system. The Italian national health service (Servizio Sanitario Nazionale) was set up in 1978, with universal coverage, solidarity, human dignity, and health needs as its guiding principles. It is regionally based and organized at the national, regional, and local levels.

Under the Italian Constitution, the central government controls the distribution of tax revenue for publicly financed health care and defines a national statutory benefits package to be offered to all residents in every region, the essential levels of care (livelli essenziali di assistenza or LEA).

The 19 regions and the two autonomous provinces of Trento and Bolzano have the responsibility to organize and deliver health services through local health units. Regions enjoy significant autonomy in determining the macro structure of their health systems. Local health units are managed by a general manager appointed by the governor of the region, and deliver primary care, hospital care, outpatient specialist care, public health care, and health care related to social care.

The reform of the Italian national health service, which started in 1992, introduced competition among providers with the twofold objective of increasing the quality of care and containing the health care expenditure.

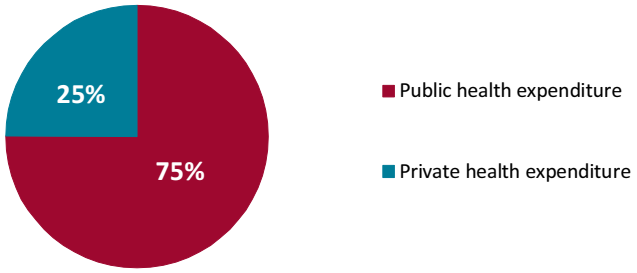
The reform was finalized in 1999 with the definition of a four-step process of accreditation. This procedure, also called the "four A" system, is organized as follows:

- authorization to build the hospital facility
- authorization to carry out the health care activity
- institutional accreditation
- contractual agreements

While the first two steps relate for the most part to technical aspects, the other two reflect quite closely the health policy approach of each region and, therefore, require to be commented on.

The institutional accreditation is the stage that allows the provider to work for the Italian national health service, and it is only granted with the prior authorization of the region, consistently with the internal hospital supply planning.

Figure 20: Health accounts in Italy (2016)



Source: Istat, inspiratia, 2018

According to data from Istat (Italy's national institute of statistics), €149 billion (US$173bn) was spent on healthcare in Italy in 2016, 25% of which was in the private sector, as seen in Figure 20. Private hospitals in Italy often operate also in agreement with the Italian national health service. When they do, they are in the category called "privato convenzionato" (private with agreement). This means they can also be accessed with the Italian health insurance card ("tessera sanitaria"), under certain conditions.

The cost of hospitalisation in a private clinic can be extremely high, e.g. from €500 to €3,000 per day for hospital accommodation (including meals and medicines), plus the costs of medical treatment, e.g. over €5,000 for major surgery. Costs for private operations vary enormously according to the reputation of the specialists involved and the fees they command.

Following the development of Italy's PPP market in the 2000s, its healthcare industry is comfortably in the secondary market stage, making it one of the most active of the non-core sectors in the EU.

One of Italy's largest deals by transaction volumes in recent years was the Q2 2016 46.7% stake acquisition of KOS, an Italian healthcare provider that includes elderly care in its remit, by industrial group CIR and infrastructure investor F2i from Ardian for US$366 million (€304m). These stakes were later adjusted in a further transaction to result in CIR owning a 59.5% stake and F2i owning 40.5% of KOS.

Equitix, a London-based infrastructure investment firm, is the sector's most frequent investor in hospitals across the EU, including four deals closed in Italy over the last three years. Earlier in that year, Equitix acquired an 85% interest in Garbagnate Salute, concessionaire of Garbagnate Hospital (Azienda Ospedaliera Salvini Garbagnate) in Italy, from an Italian construction company, Pessina Costruzioni.

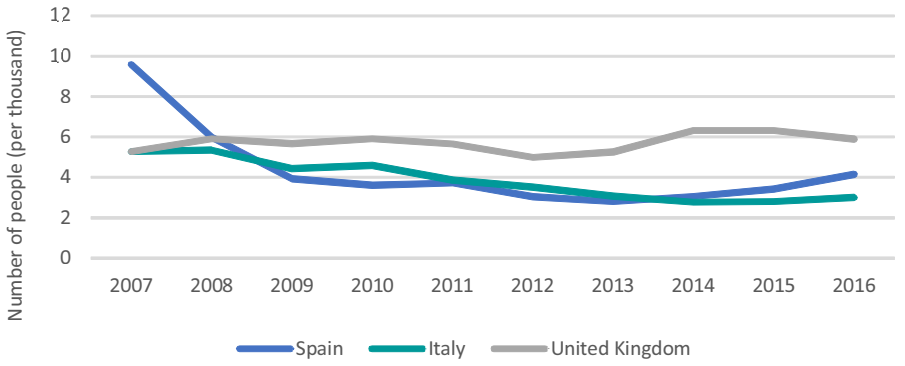
In February 2017, Equitix also became majority stakeholder in the ULSS Alto Vicentino Hospital in Italy. The health portfolio of Equitix includes several other hospitals, situated mainly in the UK, as well as the Asolo and Como hospitals, acquired in July and June 2015 respectively.

In August 2017, Equitix bought an 85% interest in Novara Salute e Servizi also from Pessina Costruzioni which retained the remaining 15%. Novara Salute e Servizi is the concessionaire of the former psychiatric hospital ASL Novara, funded with senior debt provided by UBI Banca with a 27-year concession. The project concerns the renovation of the former structure and the creation of an integrated health centre for the public.

Outlook

Admittedly, Italy's population is shrinking slightly, due to low birth rates along with an aging population and moderate levels of immigration, according to data collected by Eurostat displayed in Figure 21.

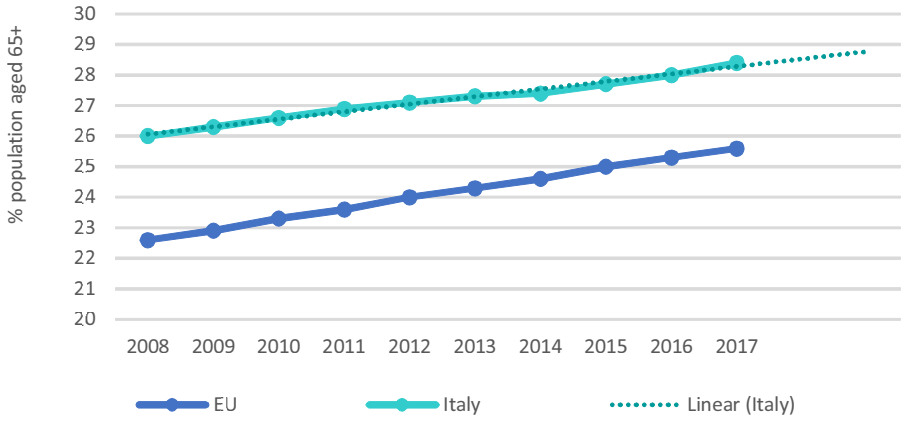
Figure 21: Immigration by country (2007 – 2016)



Source: Eurostat, inspiratia, 2018

Older populations tend to require more access to healthcare, so revenue streams in the private sector are likely to remain stable as the public healthcare system struggles to keep up with increasing demand.

Figure 22: Percentage of EU and Italy population aged 60+



Source: Eurostat, inspiratia, 2018

While the central government supervises and is ultimately responsible for the public healthcare system, services are provided at a regional level, and as such delivery can vary across the country despite equal access to the healthcare basket (LEA).

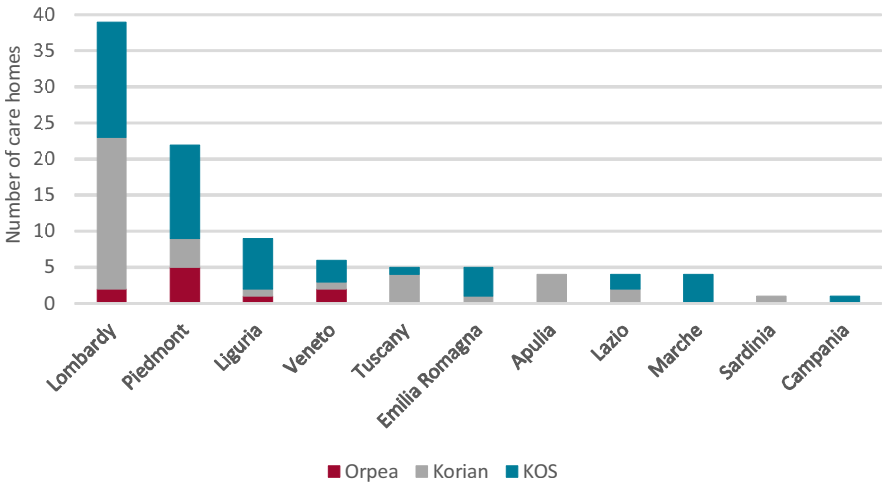
In areas with lower levels of provision and long waiting times, the demand for private sector facilities could be higher. Italy's advanced healthcare services may result in a high number of individuals with sophisticated, chronic healthcare requirements resulting from ailments which would have previously been fatal.

8.2 Nursing services

The number of transactions in Italian care services in recent years has been very limited, with no major transactions publicly available or occurring in the last three years in either elderly care or childcare, according to *inspiratia's* data. The market is exceptionally fragmented and generally both sectors are dominated by smaller, traditional players, apart from three major private providers of elderly care.

These are Korian, Orpea and Anni Azzurri which is owned by Kos Group. Partially relevant to this sector is the Kos stake acquisition by F2i and CIR, since Kos also owns a number of smaller nursing homes alongside its other healthcare assets and Anni Azzurri. However, the group's general focus is more on healthcare provision than elderly care. Orpea, on the other hand, operates at the top of the elderly care market, with fewer assets than Korian and Kos, but its facilities are aimed at the extremely wealthy.

Figure 23: Care homes of three major providers in Italian regions (2018)



Source: Korian, Kos, Orpea, inspiratia, 2018

The regional split is very apparent when we consider the positioning of assets by these major elderly care provider groups as seen in Figure 23, and it marries up with figures

released by Istat which show that 64% of all elderly care homes are located in the north of the country. The concentration of facilities in the wealthy northern regions of Lombardy and Piedmont is stark, but notable exceptions are set in desirable locations across the country, such as Apulia.

Outside of limited-asset businesses, the inclusion of nursing services as an aspect of care at healthcare facilities is a common phenomenon. For example, several institutions offer elderly care in conjunction with other healthcare services such as rehabilitation or mental health clinics, while some private schools offer kindergarten services in connection with their preschool educational facilities.

Italy's elderly population still receives a large amount of familial support and much childcare is provided either within the extended family or by the local council, which has impeded the growth of formalised private sector involvement to a certain extent. Thus, there seems to have been little movement currently in Italy's nursing services asset market.

Elderly care in Italy is regulated on a regional basis with local variations in terms of minimum floor space, pricing structure, limitations on multi-occupancy rooms and safety regulations, so operators must investigate the requirements of each local authority to build care homes. As such, blanket strategies across the country will be difficult to implement.

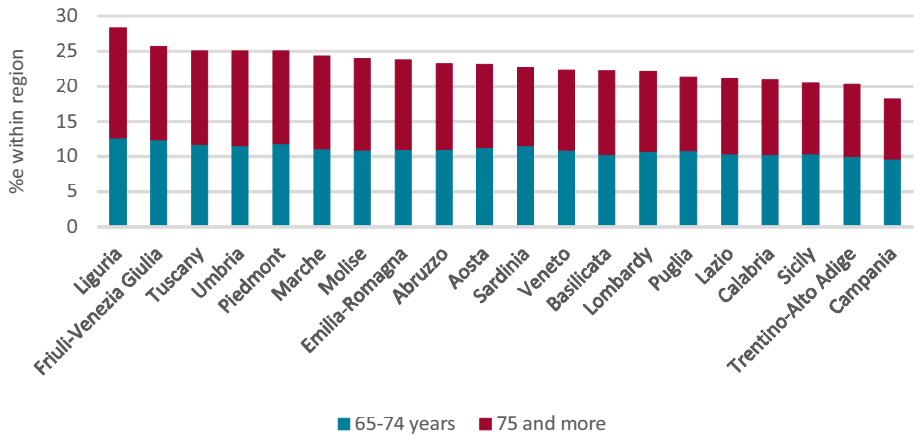
Similarly, the local authority regulates the care of children to the age of 3. Investors need to consider the local authority's regulations to measure the likelihood of success in a particular region. As such, Italy would benefit from a more streamlined regulatory system for both childcare and elderly care to encourage further M&A in the sector.

Outlook

The situation of care homes in desirable locations along Italy's coastline may well be a growing phenomenon, as care providers open facilities in attractive, well-connected destinations. This mirrors a similar model of elderly care provision in the UK, where facilities in the south of England allow for the elderly to reside in the warmer parts of the country while relatives come to visit a popular destination. Figure 24 also displays the regions of Italy with the highest percentages of elderly population, where the development of an elderly care market may be beneficial.

A further gap in the market here could be the outsourcing of private elderly care from the international market, with a specific focus on Northern Europe. According to Istat figures, only 6% of all residential care recipients were foreign in 2015, and of that only 3% were elderly care recipients. This would be particularly advantageous for care homes located close to international transport hubs such as airports or high-speed railways.

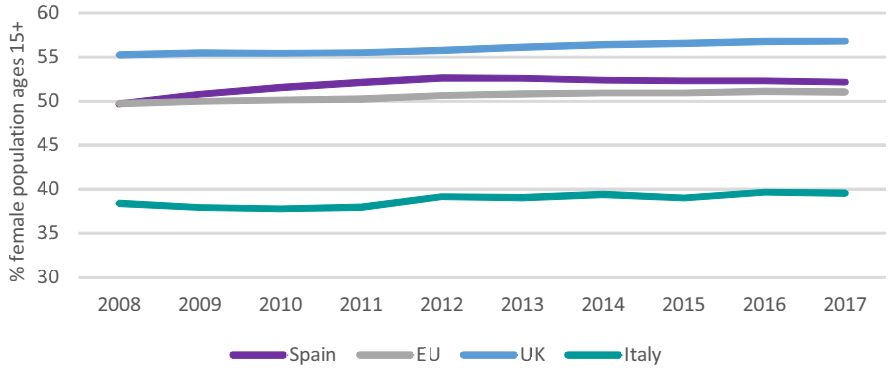
Figure 24: Percentage of elderly population by Italian region (2017)



Source: Istat, inspiratia,2018

Italy has seen a steady 6% increase in female workforce participation in the country in just under 30 years, including a 2% increase from 2008 to 2017, according to figures collected by the World Bank in 2017 as seen in Figure 25. This is one of several demographic and social trends, suggests that Italian nursing services are an area that will need significant investment in the future.

Figure 25: Females aged 15+ in EU and Italy labour force (2008 – 2017)



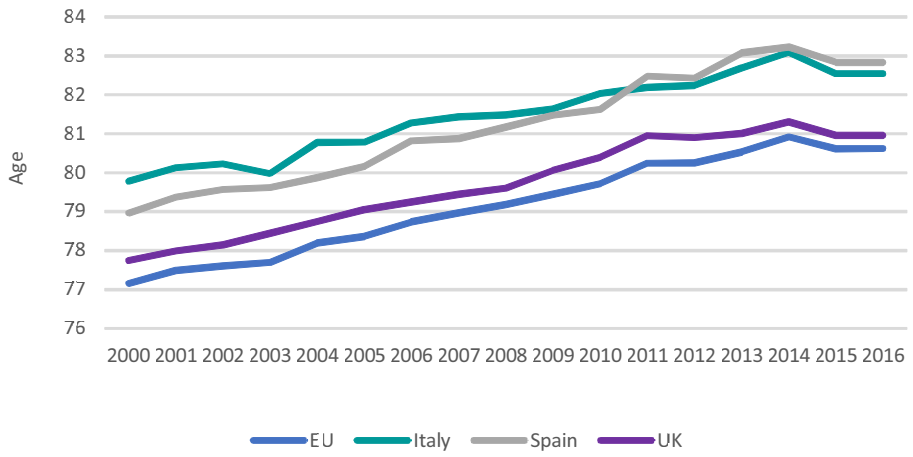
Source: World Bank, inspiratia, 2018

Nursing services as a whole will continue to grow as Italy encourages women into work, although this may not be as fast as in other areas of the EU such as Spain which saw an

11% increase in its female working population from 1990 to 2017. Specifically, the educational and social benefits of day-care environments are also being better understood by parents, however, if fertility rates continue to decline, revenue streams may suffer.

Italy is a market that is set to change since, along with most of the EU, it has declining fertility rates and an aging population bubble which will require more support over the next 10 years. It is unlikely that domestic care will be able to sustain the rise in the elderly population, so the private sector could fill the gap.

Figure 26: Life expectancy at birth (2000 – 2016)



Source: World Development Indicators, inspiratia, 2018

The total population of elderly individuals in care in Italy in 2015 was approximately 288,000, and this is set to rise. The same data revealed that there are just under 10,000 elderly care facilities to support this population. Therefore, early positioning will be key in Italy's elderly care market as assets are still very much fragmented and the sector will benefit hugely from consolidation as the need for care services increases.

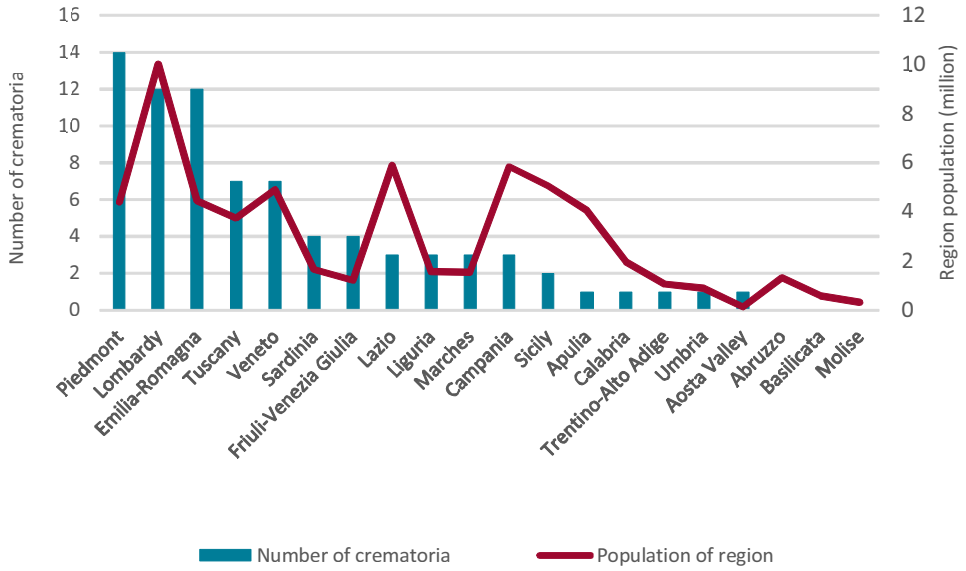
All of the indicators point to Italy having burgeoning need for a substantial care sector to account for the rise in elderly population, but so far, the industry has not reacted to these in a major fashion.

8.3 Funeral services and crematoria

Mortality rates are generally on the rise across Europe, and this is no different for the Italian population, with a high percentage of citizens over 65 years of age. Italy is also a

predominantly Christian country, with 60.1% of the population describing themselves as Catholic according to research conducted by Community Media Research and La Stampa in 2017. The next largest religious population in the country are atheists, a spiritual segment more inclined to cremation.

Figure 27: Regions by population and number of crematoria (2018)



Source: Forno Crematorio, inspiratia, 2018

Comparing the number of crematoria in each Italian region with each region's respective population uncovers interesting data. The assumed correlation between population and number of crematoria would be a proportional relationship. However, as shown in Figure 27, there are significant disparities between the two figures in several of Italy's regions, including Piedmont, Lazio, Campania, Sicily, and Apulia.

Piedmont has the most crematoria out of any singular region in Italy yet is only the seventh most populous region. In fact, most northern regions have a higher number of crematoria. Lazio, Campania, Sicily and Apulia, on the other hand, most likely lack a significant number of crematoria due to legal and cultural reasons.

Outlook

Italy's funeral services market offers huge opportunities for consolidation, in particular in the funeral director segment, as it already happened in the UK. Since the Italian crematoria market is currently extremely underdeveloped, it may require further greenfield activity, along with the bundling of existing assets to become a significant

investment proposition. However, the rapid growth of cremation rate suggests a very positive outlook for the sector.

Since cremation is also an inexpensive form of end-of-life process, it may also be beneficial to place assets in regions with moderate levels of wealth. In southern Italy, where cremation rate is still low, the potential for expansion is noteworthy. Added to this the Catholic Church's softening towards the use of cremation, the future of crematoria as an asset class in Italy is encouraging.

8.4 Education

Italy has seen promising recent investment in its educational institutions. In the first quarter of 2018, an investment in Rome's Luiss University from the European Investment Bank was approved. The main focus of the investment appears to have been adding value to these facilities.

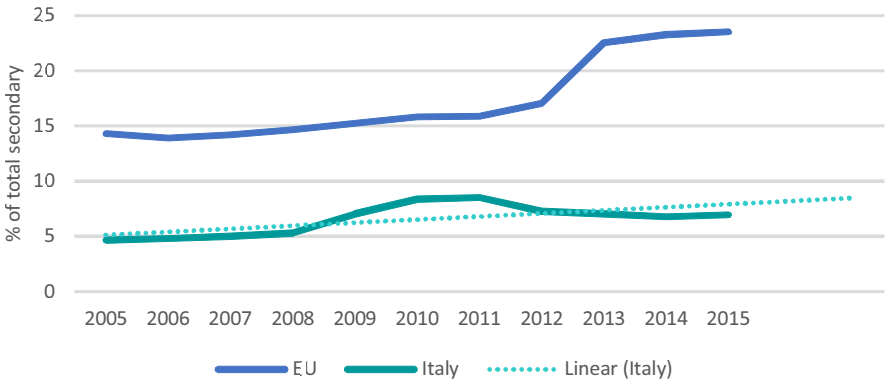
The value of the investment is approximately €134 million (US$156m) and comprises the restructuring of the university's new business school building, the modernisation of three Law Faculty buildings, the building of new residences for students for a capacity of 230 spaces, and the restructuring of the library.

The investments also include a hub for innovation and services as well as a learning centre in Milan dedicated to placement activities in collaboration with the Italian Ministry of Education, University and Research (MIUR) to help young people enter the job market. The European Investment Bank's goal in this venture is to internalise and upgrade the courses as well as improve the placement opportunities to increase the University's reputation and ranking.

In addition to public-sector investment in universities, there has been private-sector investment in the student housing market which seems to be growing exponentially. In the first quarter of 2018, Hines, in joint venture with Blue Noble, a global real estate investment management firm, invested in a student housing development in Milan.

The 600-bed accommodation facility will be near Milan's Bocconi University, and is the first of Hines' series of investments in student housing in main Italian university cities. This asset will be managed directly by Hines through Aparto, the company's dedicated student accommodation operating platform. Over the next two years, Hines aims to invest a total of €500 million (US$583m) in the main Italian university cities.

Figure 28: Secondary school pupils in private education (2005 – 2015)



Source: World Bank, inspiratia, 2018

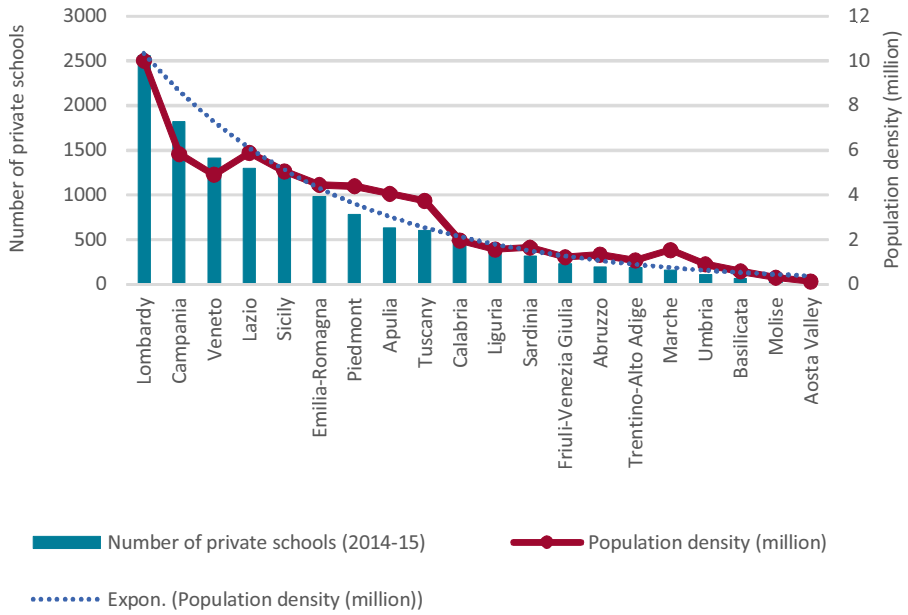
As seen in Figure 28, the participation in Italian private schools continues to increase, but it may be of interest to investors that enrolment increased during the 2008 financial crisis, perhaps suggesting that private education in Italy specifically may act as a recession-proof asset for a portfolio in times of global economic instability.

However, Italy has not seen the same influx of private school attendance at secondary education level as other countries across the European Union have in the period since 2011. This may be due to a perception that private schools offer little additional education benefit over public education.

While the ratio of pupils to school is lower on average in private schools (approximately 71 pupils in a private school against 158 in a public school, according to Istat figures from 2014 and 2015), this may not always translate across to a lower teacher to pupil ratio. However international schools in Italy, which tend to command much higher fees than Italian private school, have more freedom from the national curriculum which may impede innovation in Italian private schools.

The positioning of private schools in Italy as seen in Figure 29 reveals a link between traditionally wealthy regions such as Lombardy and Veneto, as well as busy, industrial, urban areas such as Rome, Palermo and Naples. It may be that areas with an established middle-class would support further development of the regions private schools, along with areas of significant wealth.

Figure 29: Private schools in Italian regions vs. population density (2018)



Source: MIUR, Istituto Nazionale di Statistica Italia, inspiratia, 2018

The financial transactions of a sale and leaseback variety could very well begin to be used in the Italian educational sector, in the same way it is being used to free up liquidity for hospitals. Private educational institutions in Italy hold several high valued assets. Selling these assets to large institutional investors and real estate investment funds, while coordinating a deal to lease the assets, would give schools and universities the chance to purse more capital-intensive ventures.

This capital would go towards hiring more teachers, expanding facilities, or restructuring certain courses. Institutional investors seeking a constant and predictable source of income would also benefit from this type of financial transaction.

Outlook

One of the most interesting areas for greenfield investment could be represented by boarding schools that offer educational services in English, alongside Italian. They could cater to expat population living in Italy, to the wealthier and more internationally-oriented segmented of the domestic population, but also to overseas pupils.

Italy is already one of the most popular destinations for undergraduate exchange programs; international schools in the country could leverage the country's unique cultural, artistic and historical heritage to target international applicants, combining primary and secondary education to offer a K12 system, therefore ensuring a steady revenue flow for 12 years.

Well-renowned cultural hotspots such as Florence, Venice and Rome could be primary locations for the establishment of new boarding schools. As for other asset classes examined in this report, consolidation opportunities are significant.

8.5 Data centres

M&A activity appears to be stepping up in the Italian data centres market, as shown by the acquisition of 94.12% of the fibre-optic and data centre developer Infracom by F2i and Marguerite from Abertis in June 2017, valued at US$64.7 million (€57.8m).

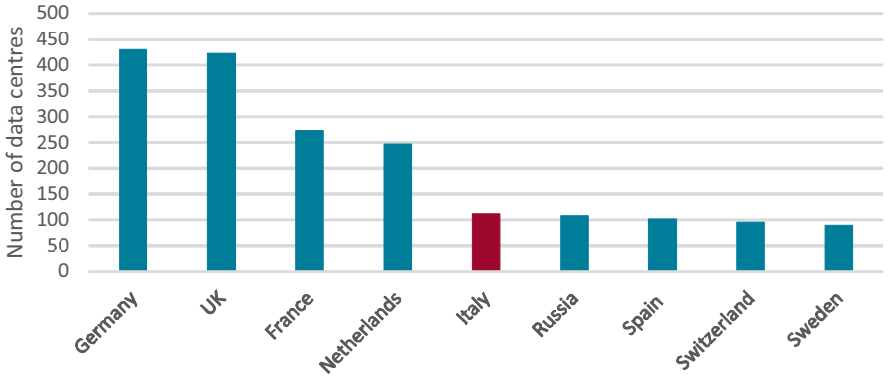
The joint acquisition of Infracom was completed through a common corporate vehicle, 80% owned by F2i Second Fund and 20% by Marguerite. Such a move was followed by the acquisitions, again by F2i and Marguerite, of 89.81% of Rome-based fibre-optic provider MC-link in August 2017 and of 90% of KPNQwest in September 2017.

This rush of activity is set to lead, in July 2018, to the merger of Infracom, KNPQwest Italia, MC-link and BigTlc into a new company called Irideos, which aims to become one of Italy's main providers of ICT services for business. Irideos is likely to expand though the acquisitions of other medium sized ICT players, hence competing with established players like Telecom and Fastweb.

According to a company statement, Irideos' purpose is to support companies through solutions consisting of data centres, clouds, fibre optics, and security. Irideos' technological platform currently consists of ten data centres in the cities of Milan, Rome, Trento and Verona, as well as a 15,000km long fibre optic cable that runs along the main Italian highways. These data centres are all connected to the large hub of via Caldera, in Milan.

Aruba has also remained a significant player in Italy. Founded in Italy in 1994, Aruba operates web hosting and domain registration services, as well as data centres. Aruba's Global Cloud Data Centre (IT3) is located in Ponte San Pietro, Bergamo and is Italy's largest commercial data centre. The other Aruba data centres are located in Arezzo, Tuscany, and Ktiš, in the Czech Republic.

Figure 30: Number of data centres in selected European countries (2018)



Source: Cloudscene, inspiratia, 2018

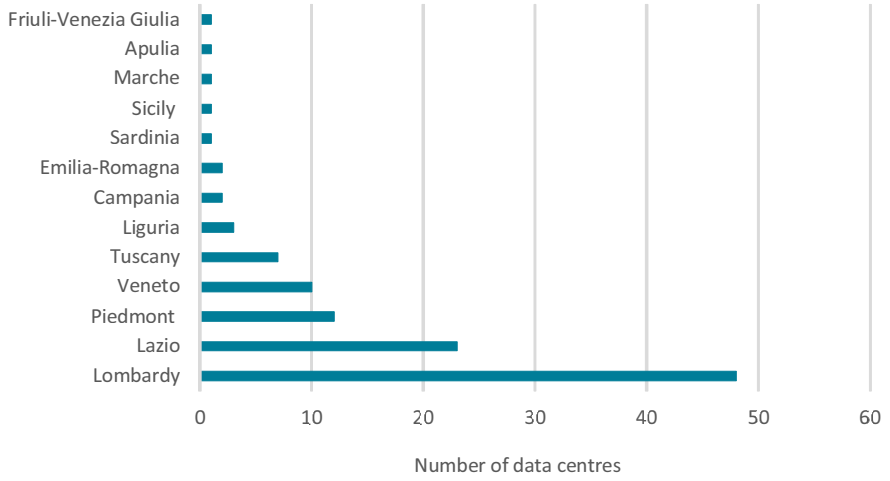
Italy's data centres market appears to be significantly underdeveloped compared to other major EU countries. According to connectivity directory Cloudscene, there are 430 data centres in Germany, 424 data centres in the UK, 273 in France, 247 in the Netherlands and only 112 in Italy. Italy has a similar number of data centres to Russia (108), Spain (102), Switzerland (96) and Sweden (90), countries that have a lower GDP than Italy.

Data centres are particularly concentrated in the region of Milan, Italy's business capital, which has the potential to compete with Europe's main data hubs, such as London, Amsterdam and Frankfurt. However, there is still a lack of data centres in the industrial heartlands of north-east and north-west, where a significant number of small and medium enterprises (SME) are based.

In the central and southern regions, the lack of data centres is particularly significant. However, the data centre needs of these regions should not be underestimated, since data centres will be needed in and around Rome, to satisfy the increasing demand of government buildings.

Data centres developed in the central and southern regions will also benefit from the proximity to wind and solar photovoltaic assets. As Table 8 shows, southern Italy produces 22% of the country's GDP, hosts a significant share of the country's PV (37.4%) and even more wind (96%) installed capacity, and merely 4.6% of its data centres.

Figure 31: Data centre count by region (2018)



Source: Cloudscene, inspiratia, 2018

Italy currently ranks 25th out of 28 member states in the EU's Digital Economy and Society Index 2018 and has some of the weakest performing fixed broadband in the region.

However, the country is scheduled to have auctioned off its 5G frequencies by the end of September 2018, which will significantly increase the Italy's data traffic when it becomes publicly available. This increases further the need for more data centres around the country, otherwise the industry may be unable to sustain these ultra-fast internet connections to businesses and homes.

Table 8. Data centre capability in the South of Italy (2017)

	Italy	Southern Italy (% of total)
Surface area (km2)	301,338	123,024 (40%)
Population (m)	60,628	20,812 (34%)
GDP (2016 €m)	1,672,438	379,077 (22%)
Onshore wind, installed capacity (2015)	9,140.6MW	8,861MW (96%)
Solar PV, installed capacity (2016)	19,283.2MW	7,221.6MW (37.4%)
Data centres	107	5 (4.6%)

Source: Svimez 2017, Cloudscene, inspiratia, 2018

Outlook

Given the fact that the Italian data centres market is still remarkably underdeveloped compared to other EU countries of similar size, it is to be expected a significant expansion, primarily in terms of construction of new assets, in the years to come. Such a need will be intensified by the upcoming widespread adoption of 5G broadband, which will in turn pave the way for self-driving vehicles that are set to exponentially increase the amount of data generated. The expansion of blockchain mining could further expand the demand of data centres, for example in areas close to San Marino, which aims to become a blockchain hub.

Greenfield opportunities are likely to be abundant not only in Milan, which is already not only the country's business capital but also its most developed Internet and data centre hub, but also in Lazio, due to the proximity with Rome's government buildings. The construction of data centres will also be essential in the country's numerous industrial districts and manufacture heartlands, in order to meet the colocation needs of small and medium enterprises (SME) that constitute the backbone of the Italian economy. What is more, southern regions could secure a meaningful market share, offering data centres the closeness to renewable energy assets.

As for other non-core infrastructure assets, Italy's data centres market is extremely fragmented. A consolidation process is currently ongoing, with Irideos, controlled by F2i and Marguerite, set to become a primary player. Such an example could be potentially followed by other international players.

Overall, both Italy's primary and secondary data centres market look very promising for the long-term strategies of infrastructure funds.

8.6 Car parks

Legislation is one of the main drivers for the car park industry. The first law (756/1967), approved in 1967, defined the minimum infrastructural standards for the construction of car parks, along with logistical rules for developers to follow regarding the overall floor space of the structure. In 1989, the 122/1989 law devised incentives for private investors to invest in public parking construction and management.

The incentives consisted of concessions to build and operate, land rights for a specified time up to 99 years, possibility to resell up to 30% of the total amount of structures built to private bodies and public financial contributions on a long-term basis (15-year term).

Legislation introduced in 1994 significantly increased the number of PPPs in the sector by making project financing available. The option of project financing, not subject to constraints defined by local authorities, caused more players to enter the market,

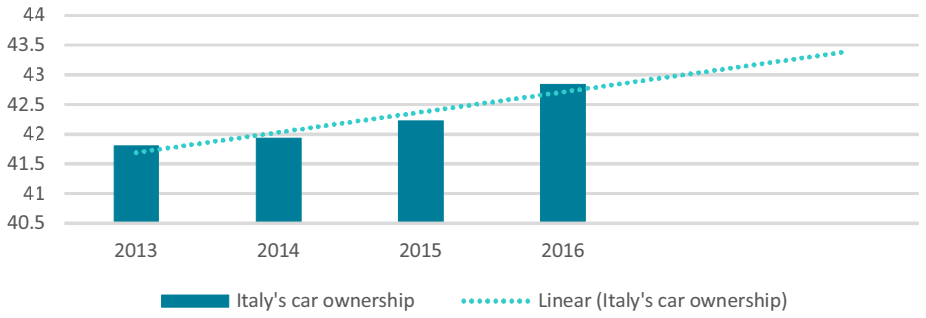
leading to an increase in the number of new car parks being constructed from 11 in 2000 to 113 in 2004.

However, Italy's car park sector has been rather slow compared to other EU markets. According to *inspiratia*'s data, there have not been any notable car park acquisitions or financings in Italy recently. As such, there is significant business opportunity regarding the future market landscape of car parks.

As metropolitan areas and cities are becoming increasingly populated, the demand for car parks is set to rise. According to a report released in April 2017 by Associazione Trasporti, Associazione Nazionale Autotrasporto Viaggiatori, and Istituto Superiore di Formazione e Ricerca per i Trasporti, Italian urban centres have seen an increase in the market share of private automobiles within the transportation market since 2008.

The only region where the market share of private automobiles has decreased is southern Italy and the islands. Instead, here, public transportation has seen an increase in market share. Interestingly, motorbikes and scooters have seen a decrease in market share in all regions of Italy since 2008. This data is promising for the demand for car parks as more parking space will be required to service the increasing number of cars being driven in urban centres.

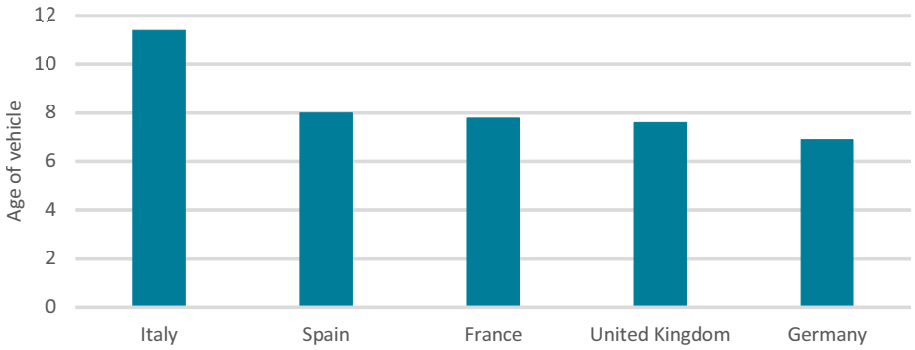
Figure 32: Car ownership increase (2013 – 2016)



Source: Eurostat, inspiratia, 2018

The same report shows that private automobiles have seen an increase in market share in all regions of suburban Italy and public transportation has seen a corresponding decrease in market share across suburban Italy. As such, this data reveals a market need that would be well suited to further investment in Italy's carpark infrastructure.

Figure 33: Public bus age (2018)



Source: Investire nel trasporto pubblico, ASSTRA, Cassa Depositi e Prestiti, inspiratia, 2018

Figure 33 shows one reason why the use of public transportation is declining in Italy. Having some of the oldest public buses in Europe, being on average 11.4 years old, public transport is considerably inefficient. This is undeniably contributing to the unfolding consensus in Italy that owning and driving a personal car makes life easier.

The car park market and EV charging infrastructure in Italy seem to be interdependent. If Italy can successfully improve its charging infrastructure and promote the use of EVs, it could potentially benefit from sizable investment in private car parks centred around EV clientele.

Outlook

Italy boasts one of Europe's highest rates of vehicles pro-capita, while the stock of car parks is still limited, with both the main urban centres and suburban areas requiring significant public and private investment in these facilities. Current assets are very often insufficient to meet demand, even leading to the proliferation of informal car parks in major Italian cities. Hence, there are significant opportunities to invest in this asset class.

Moving forward, car parks providers could secure a head-start in the nascent electric mobility market by providing on-site EV charging facilities. One of the main threats to the industry is the increasing appeal of car sharing services, especially in cities such as Milan, Rome, Turin and Florence. Suburban areas, where car sharing services are either absent or not widespread, have therefore an even bigger potential. As in the case of other assets, car parks are extremely fragmented, offering international and domestic investors ample opportunities for consolidation plays, which are already taking place in other more mature EU markets.

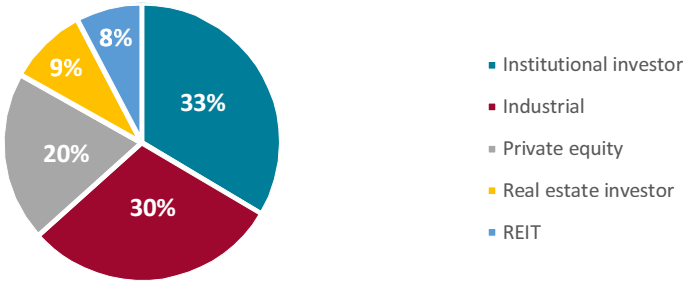
9. Non-core investors

All of the sectors covered by this report have so far experienced differing levels of penetration by traditional infrastructure investors. Some, like data centres, are dominated by real estate specialists, while car parks tend to be the preserve of private equity players. Other areas are much more diverse in terms of the profile of investors that have closed significant volumes of acquisitions. However, all have seen activity from specialist infrastructure investors to some extent, and this is set to increase.

The rationale for this is central to the nature of this report; core infrastructure players finding themselves in increasingly competitive spaces with asset pricing pushing returns into areas lower than expected. Crucially for funds currently in an investment phase, this will lead some to fall short of the return levels promised to their limited partners.

One way to address this is to push into non-core sectors where competition is perhaps less intense, meaning asset prices are more reasonable. However, with this comes a move up the perceived risk curve into unfamiliar areas, pushing the boundaries of what is accepted as infrastructure in the process. As mentioned, the sectors covered by this report are among the areas to which infrastructure groups are now turning, but not in a uniform fashion, as Figures 34 to 38 demonstrate.

Figure 34: Hospitals & healthcare M&A volume by investors (2015 – Q1 2018)



Source: inspiratia, 2018

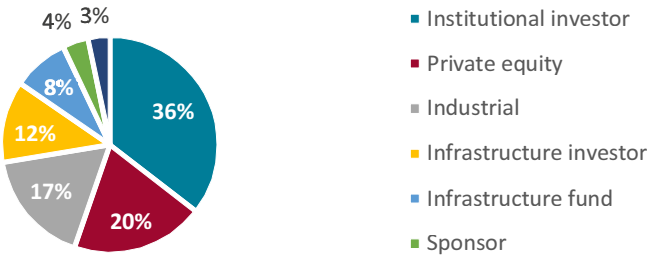
As can be seen in Figure 34, the hospitals & healthcare sector is relatively diverse in terms of the profiles of investors that have acquired assets since the beginning of 2015. As perhaps the most mature of the sectors studied for this report, it is a reasonable expectation that a wide array of different types of player is active in the market.

Direct institutional investors lead the pack in hospitals, which is another sign of the maturity of the sector, followed by traditional private equity groups and industrial players. Direct infrastructure investors and funds between them make up 20% of the

volumes in the space over the past three years, suggesting room for expansion, but there will likely be firm competition from the large-sized groups already operating.

Leading investors over the period include PSP Investments, Partners Group, Infracapital, Bupa and the Pensions Infrastructure Platform. It is illuminating to compare the market share for hospitals in Figure 34 to Figure 35 which covers nursing services and displays a very different market makeup.

Figure 35: Nursing services M&A volume by investors (2015 – Q1 2018)



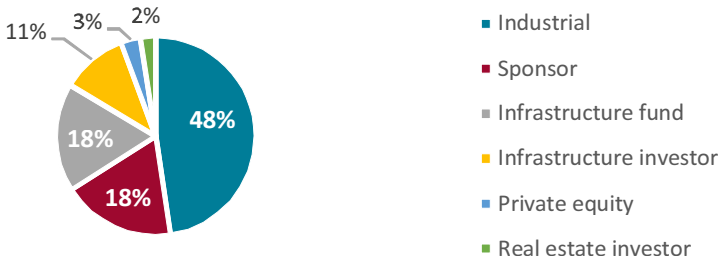
Source: inspiratia, 2018

As can be seen in Figure 35, the transaction volume share is again led by institutional investors, although industrial groups take a far larger part of the scene and private equity players were the third largest player. Infrastructure funds have so far made a negligible impact on the nursing space, highlighting it as a sector that could see significant growth for these groups over coming years. However, it also means that there are compelling reasons for funds to have yet made the move into the market, despite it possessing characteristics that are obviously attractive for institutionals and private equity.

In addition, the presence of a strong complement of industrial businesses adds major competition to this highly specialised space, potentially increasing the barriers to entry to a level beyond those tolerated by infrastructure funds. Current leading groups include Primonial, Nordic Capital, HC-One, AXA Real Assets and Deutsche Wohnen.

The education sector also takes on a quite different appearance to the two others covered above. Here, as displayed in Figure 36, industrial groups are in the driving seat with an almost half share of recent M&A transaction volumes. Sponsors, dedicated school PPP constructors and operators, and infrastructure funds are equally involved in investment.

Figure 36: Education M&A volume by investors (2015 – Q1 2018)



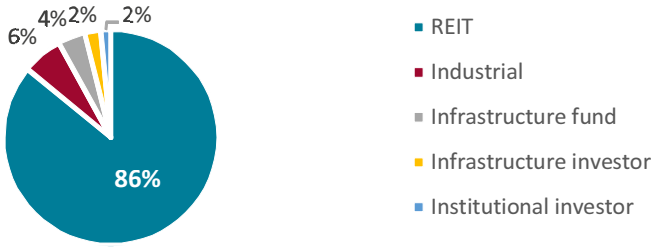
Source: inspiratia, 2018

The prominence of industrial players in such a specialised field is to be expected, but there is undoubtedly a gathering of momentum in the participation of other groups in the sector. While infrastructure funds can take direct ownership of single school PPPs, which represent the bulk of the transactions making up the share held by these groups, there are other routes into this area, exemplified by the seemingly small private equity component of Figure 36, if one digs a little deeper.

The private equity component in the Figure 36 fails to demonstrate the extent of involvement in the sector by these groups, principally because so many of the industrial players involved in private education have secured backing from private equity.

This too could be a means for dedicated infrastructure funds to enter the market, at least for those that have appetite for corporate level transactions. Leading education investors include GSA Group, GIC, Galileo Global Education, Demeter Partners and Nord Anglia Education.

Figure 37: Data centres M&A volume by investors (2015 – Q1 2018)



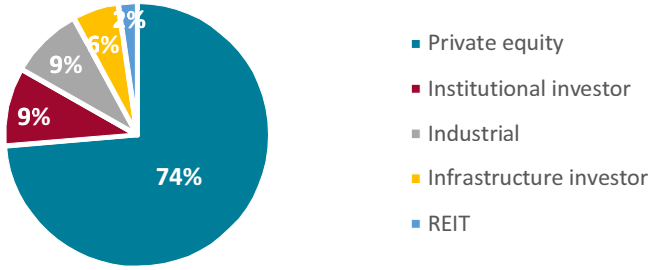
Source: inspiratia, 2018

The market for data centres displays perhaps the most starkly individual profile of the bunch analysed for this report. As seen in Figure 37, this is an area that is dominated by real estate investment trusts (REIT). This demonstrates the quandary faced by

infrastructure funds as to how to treat data centres, either as real estate or as infrastructure assets. From the data, one would assume that the first option is unassailably correct, but there is an increasing interest in these facilities from infrastructure groups as they eye an expanding industry with robust long-term revenue forecasts.

InfraVia is one such group that has broken into the market in a significant way, but it and others will have to contend with the dominance of groups like Equinix and EdgeConnex. Added to this is the low barriers to entry for some data centre business models, where buildings are little more than lightweight warehousing, which may trouble some infrastructure investors. Car parks, meanwhile, display similar dominance by one category of investor, but this time it is private equity firms, as demonstrated in Figure 38.

Figure 38: Car parks M&A volume by investors (2015 – Q1 2018)



Source: inspiratia, 2018

This can principally be attributed to the fact that the car parks space in Europe is dominated by large corporates that are prime candidates for groups looking to deploy capital at scale in corporate transactions. This has not barred institutionals and infrastructure investors from taking a slice, albeit a slender one at present. If among these there are players looking for a ticket size of sufficient volume, then car parks could be an attractive option.

That being said, some will be looking ahead at the disruption faced by the car industry and the dire predictions for automobile ownership, and therefore demand for parking, that a proliferation of ride sharing and autonomous vehicles might realise. Current leaders in the sector include KKR, First State and Park24.

Investors in the crematoria sector have diversified in the least statistically significant way. The sample size of transactions captured by this report is also too small to perform the same kind of analysis as on the sectors above. However, of the data points that have been collected, these are led by direct institutional investors, such as the Ontario Teachers' Pension Plan and the Universities Superannuation Scheme.

10. Correlation analysis

Further analysis of the *inspiratia* datasets was conducted regarding secondary market transactions during the period Q1 2015 - Q1 2018 in the specific non-core sectors of:

- hospitals and healthcare
- nursing services
- funeral services and crematoria
- education
- data centres
- car parks

The main private source of transaction data was *inspiratia*'s dataLive, a proprietary database of infrastructure and renewable energy projects. The public sources of demographic and macroeconomic data were the Organisation for Economic Co-operation and Development (OECD), as well as other governmental and inter-governmental organisations.

In the present study, linear regression and correlation analysis have been conducted to identify and assess relationships between a number of variables within demographics, macroeconomics and transaction volumes. The goal of this undertaking was to determine the drivers of secondary market activity in the selected sectors in the period Q1 2015-Q1 2018.

In particular, the chosen variables were:

- Dependent variables (macro indicators):
- GDP growth rate (quarter on quarter change)
- Mortality rate (quarter on quarter change)
- Fertility rate (quarter on quarter change)

Independent variables (impacting on the macro indicators):

- Hospitals and healthcare transaction volume (US$) and deal count
- Nursing services transaction volume (US$) and deal count
- Crematoria and funeral services transaction volume (US$) and deal count
- Education transaction volume (US$) and deal count
- Data centres transaction volume (US$) and deal count
- Car parks transaction volume (US$) and deal count

10.1 Methodology

Regression analysis is a systematic quantitatively based investigation into a numerical dataset. It is employed to extract useful relationships from which models may be constructed and conclusions drawn. In the first instance, regression analysis was conducted to assess the impact of the above independent variables on the dependent variables within our dataset.

The use of regression analysis of all three dependent variables was originally advocated, and together with the complete set of independent variables, but major limitations on our dataset were later discovered. The lack of comprehensive financial data, due to confidentiality agreements between the parties to acquisition deals, decreased the quantity of data.

The need to have sufficient data points to ensure an accurate analysis led us to favour data by quarters. However, fertility rates by quarters were not available and mortality rates per quarter were only available for the United Kingdom. As a result, the crematoria transaction volume and fertility rate variables were removed from this analysis. Values for Q1 2018 were also not available, possibly due to the report's proximity to that period, and so the Q1 2018 data point was also discarded. Lastly, the EU scope was constrained to a purely UK-orientated study on the same basis.

The remaining variables were:

- UK GDP growth
- Education by transaction volume
- Education by deal count
- Hospitals by transaction volume
- Hospitals by deal count
- All six sectors by deal count

Consequently, the regression analysis method was abandoned and replaced with correlation analysis over the period Q1 2015 to Q4 2017. Mortality rate was also removed due to lack of relevance.

10.2 Correlation results

Correlation analysis can be used to illustrate the relationship and its strength between any two of our variables. Only the UK variables were suitable to be analysed, as those were the most comprehensive.

Finally, correlation coefficient is used to quantify our findings. A correlation coefficient approaching +1 would indicate a strong positive relationship between two variables,

whereas a value approaching 0 would indicate weak to low correlation. A value approaching -1 would indicate a strong negative relationship.

Table 9. Correlation findings

Dependent Variable	Independent Variable	Correlation coefficient
GDP (quarter on quarter)	UK - Private education - Transaction volume	0.50
GDP (quarter on quarter)	UK - Hospitals - Transaction volume	0.44
GDP (quarter on quarter)	UK - Hospital, car parks, private educations, nursing services, data centres - Deal count	0.09
GDP (quarter on quarter)	UK - Nursing services - Deal count	0.09
GDP (quarter on quarter)	UK - Private education - Deal count	0.02

Source: inspiratia, 2018

It was deduced from the numerical results that:

- There is a moderately positive, strong relationship between UK GDP growth and UK education acquisition transaction volume.
- There was a positive but slightly weak link between UK GDP growth rate and the UK hospital and healthcare acquisition transaction volume.
- There was a positive and very weak link between UK GDP growth rate and the total number of UK acquisitions across the sectors, excluding funeral services and crematoria as there was a lack of data points due to low deal flow.
- There was a positive but very weak link between UK GDP growth rate and the UK nursing sector acquisition deal count.
- There was a positive but significantly weak relationship between UK GDP growth rate and the UK education sector acquisition deal count.

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BonelliErede is one of the largest independent law firms in Italy, with offices in Milan, Rome, Genoa, London, Brussels, Frankfurt, Cairo (in cooperation with Kosheri, Rashed & Riad), Addis Ababa (in cooperation with Tameru Wondm Agegnehu Law Office), Dubai and - through international partnerships of Tribonian Law Advisors - Riyadh and Beirut.

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