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Cyprus ICT 2019-2021 Forecast and 2018 Analysis

IN THIS WHITE PAPER

IDC and the Cyprus Computer Society (CCS) cooperated to produce this comprehensive report covering the Cypriot information and communication technology (ICT) market. The report focuses on all ICT market segments, including the IT equipment, IT services, software, and telecommunications markets, with 2019 market sizing, forecasts until 2021, and trend analysis. The in-depth analysis for 2019 covers the IT services segment.

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Many leading IT companies have set up regional headquarters on the island of Cyprus, which offers access to a highly skilled and educated workforce.

EXECUTIVE SUMMARY

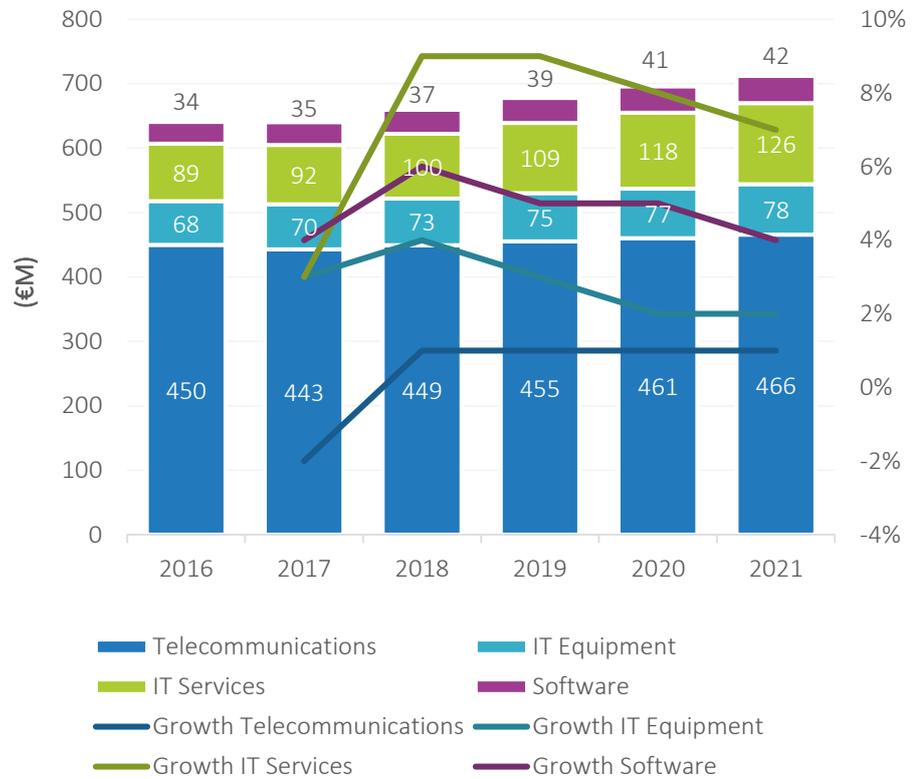
The Cypriot ICT market (including telecommunications) reached a value of €659.39 million in 2018, representing year-on-year growth of 3.0%. The IT market (excluding telecommunications) was valued at €210.05 million, representing year-on-year growth of 6.5%. Spending on IT services reached €100.33 million, up 9.0% year on year.

As with other sectors in the Cypriot economy, the ICT market in Cyprus continues to benefit from a better-than-expected recovery from the financial crisis that hit its painful nadir back in 2013. GDP growth exceeded 4% in each of the last two years, and while this rate is expected to slow somewhat over the next two or three years, healthy growth of around 3% is forecast by the European Commission. The outlooks for inflation and unemployment are similarly positive, with the former set to remain at around 1% and the latter expected to fall to under 6% in 2020. Furthermore, there is much hope among relevant authorities that the newly found natural gas deposits near the Cypriot coast could (in addition to bringing in investment) reduce the dependency of Cyprus and the wider EU on natural gas supplies from Russia.

These positive trends will all necessitate an active role to be played by the Cypriot government. This starts with the efforts to build high-quality and resilient telecommunications infrastructure including 5G, satellite, and high-speed broadband, but also includes supporting actions such as the establishment of a National Broadband Plan with subsidies and grants for concrete projects, and the allocation of licenses for the testing and launch of 5G services. Additionally, encouraged by the commitment of the Cypriot government to invest in the ICT sector, the number of software and IT jobs has been rising steadily. Many leading IT companies have set up regional headquarters on the island of Cyprus, which offers access to a highly skilled and educated workforce.

Support and training services continue to be the largest IT services primary market (followed by project and outsourcing services) although its overall share decreased somewhat compared with 2016. On the other hand, outsourcing services remained at almost the same level. The finance sector is the largest spender on IT services, followed by telecom operators and the public sector, as there are often call for tenders with long project durations, and thus extended revenue streams for bidders. Almost half of Cypriot companies expect increases in IT services spending, while another 40% will keep their investments at the current level. Companies will mostly invest in security, which is also considered as the main internal challenge.

FIGURE 1
Cyprus ICT Market by Segment (€M)



Source: IDC, 2019

This IDC White Paper examines the state of the IT industry in Cyprus in 2018 and 2019 with a focus on the IT services segment, and forecasts industry spending for 2019-2021. The study contains market size and distribution by both foundation market and vertical market.

The study answers the following questions:

- What are IDC's predictions for ICT and IT services spending in Cyprus? What are the driving forces and the expected dynamics of the market, and what impact will the related issues have on the market in 2019-2021?
- What do end users in Cyprus say about their IT and IT services priorities, concerns, and preferences?
- What are the latest trends in IT services delivery in Cyprus, and what are the main drivers of change?

SITUATION OVERVIEW

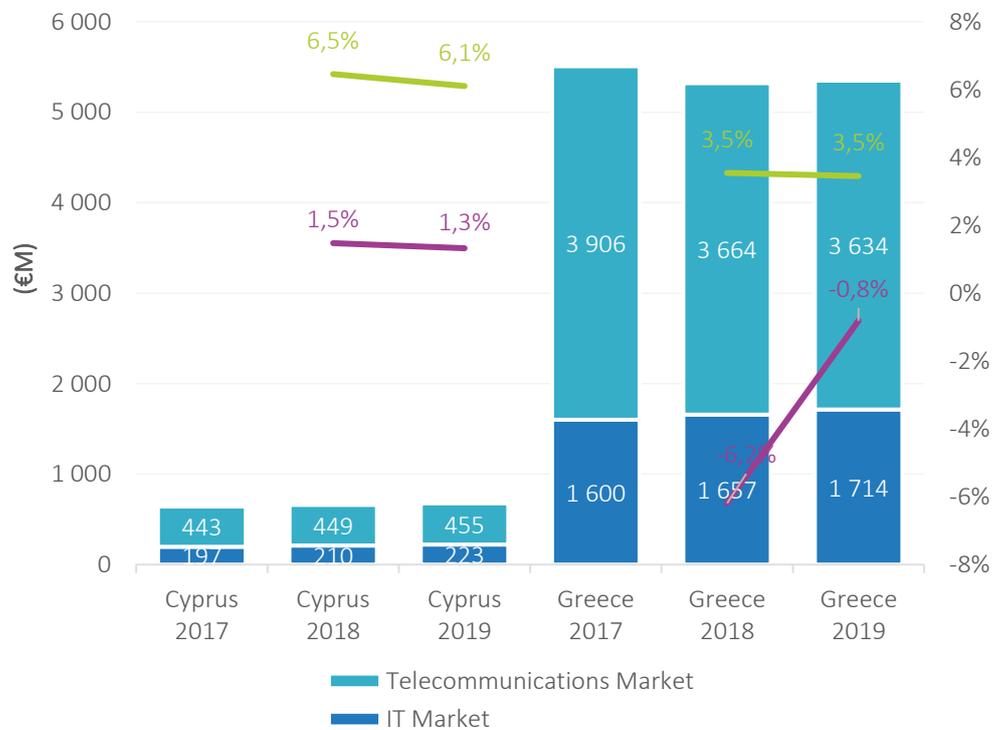
ICT spending (including the telecom market) grew 3.0% year on year in 2018 to reach €659.39 million.

Spending on IT (excluding the telecom market), on the other hand, grew 6.5% year on year in 2018 to reach €210.05 million.

The value of the IT services segment increased to €100.33 million in 2018, representing year-on-year growth of 9.0%.

FIGURE 2

ICT Market in Greece and Cyprus (€M) 2017-2019



Source: IDC, 2019

The IT Market in the Context of Current Economic and Business Environment

As with most other sectors of the Cypriot economy, the IT market benefits from the ongoing recovery of the business climate that was hit harshly by the economic and financial crisis back in 2012-2013.

The Cypriot economy has enjoyed GDP growth rates of around 4% in recent years, which is above the EU average; however, the country's Ministry of Finance predicts GDP growth will fall to under 3% by 2021. This positive development is coupled with a similarly

positive outlook for other important indicators of economic performance. The unemployment rate, which hit a high of around 15% during the economic crisis in 2013–2016, is set to decline to 5.5% by 2021. Also, public debt is forecast to decline steadily, the budget deficit is expected to remain under 3% of GDP, and the annual inflation rate is forecast to remain below 2%.

This positive outlook may, in the future, be further fuelled by the recent discovery of natural gas deposits south of the coastal city of Limassol. According to experts, the deposits indicate high-quality reserves, and the Ministry of Energy believes that the newly found resources (the exploitation of which could be launched by 2022) have good potential to become an alternative source of energy for the EU, reducing its dependence on Russian natural gas.

Key Drivers of the IT Market

Adoption of New Technologies

Cypriot companies are beginning to see the strategic importance of infrastructure optimisation, consolidation, and transformation after some resistance to invest in ICT in recent years. They now understand that adoption of new technologies is necessary to remain competitive. These initiatives will typically be driven by lines of business, and will demand the utilisation of solutions such as mobility, Big Data analytics, application programming interfaces (APIs) for new services, machine learning, and robotic process automation. Companies from the manufacturing, utilities, transportation, and retail industries, among others, will need to integrate Internet of Things (IoT) technologies as they optimise corporate IT operations in support of business needs.

This presents services providers with great opportunities to become trusted advisors and implementation partners, and capitalise on the uptake of innovative technologies by addressing the concerns of companies around new technology adoption, business cases, best practices, and adding value to customers' organisational goals.

GDPR and Governmental Regulatory Measures

The European Union's General Data Protection Regulation (GDPR), which came into force in May 2018, obligates organisations to comply with rules to protect the personal data of EU citizens. GDPR, alongside local regulations that affect business-to-consumer industries including finance, represents a great opportunity for IT services companies to evaluate clients' technologies, help them with compliance, and recommend ways to turn compliance into a driver of competitive advantage.

IT Talent Shortage

As companies progress on their digital transformation journeys and inevitably require expertise in the implementation and utilisation of new technologies, they increasingly feel the effects of skills shortages. The most common ways to deal with the lack of skilled IT human resources are to upskill current employees, cooperate with universities to ensure graduates have the required skills, and to rely on external services providers with the right expertise, often alongside the adoption of standardised service delivery models

such as public cloud. Some organisations also attempt to bring in workers from Eastern Europe. The lack of IT experts is likely to remain a concern over the coming years, as it is already one of the main challenges facing organisations across the EU.

Time is Money and Technology Saves Time

Companies are under increasing time pressure on many fronts, including the need for real-time access to data, real-time analysis of data, fast market release of new products and services, shortened application development cycles, and faster deployment of IT solutions. This time pressure results in increased adoption of technologies (real-time analytics, IoT, private cloud), services (public cloud, business process reengineering (BPR) consulting, agile software development), and methods (DevOps) capable of saving companies' time.

National Broadband Project

By 2020, the Cypriot government aims to achieve internet coverage with a minimum download speed of 30Mbps for all households and businesses in the country. Most companies perceive this as a necessary milestone on the way to digitalising the country.

Cloud Uptake

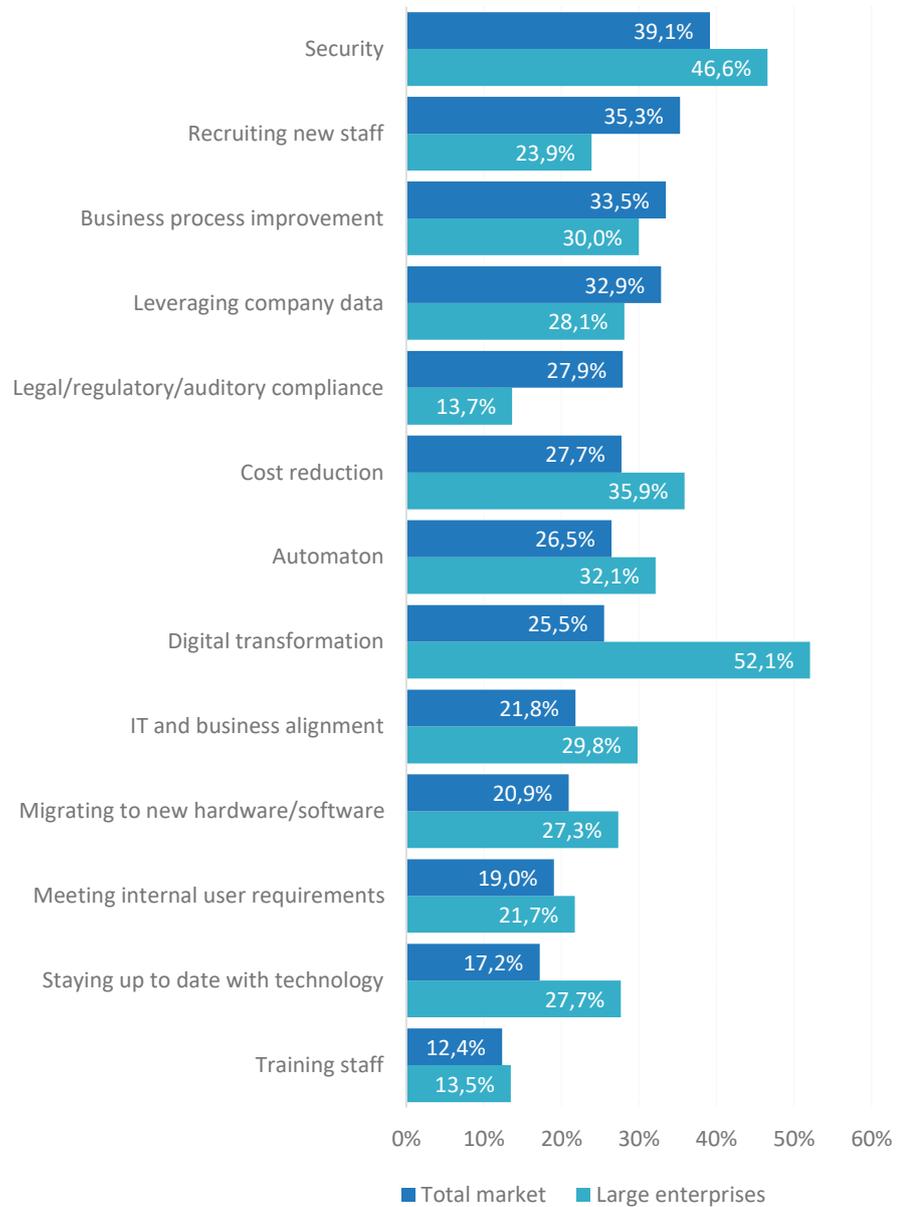
Cloud uptake is not always linked to new spending — it often comes at the expense of traditional hardware, software, and IT services delivery models, and therefore has a strong effect on redistributing IT budgets and recruiting new IT solutions providers. Private cloud is gaining ground among large companies, even among those that state they must deal with serious security concerns and strict regulations. These large companies with strong in-house IT tend to deploy what they regard as private or hybrid cloud environments to migrate existing systems or to expand/enhance systems. Infrastructure, platform, and software public cloud adoption is also gaining acceptance among companies of all sizes.

Internal Challenges and IT Investment Priorities of Cypriot Companies

Security, coupled with compliance, represents the most common internal challenge facing Cypriot companies (see Figure 3). While regulation and compliance are generally regarded as cost generators without creating new business value, they often trigger significant IT investment. With a heated labour market and shortage of available skilled workforce, recruitment of new staff has emerged as the second most widespread challenge facing Cypriot companies, particularly for those with less than 100 employees.

FIGURE 3 Challenges Facing Cypriot Companies in 2019

Q. What are the main internal challenges for your organisation in 2019?



Source: IDC Cyprus IT Buyer Survey, 2019

The issues in finding and hiring new talent have multiple impacts on the IT function too, from difficulties in executing digital transformation strategies, through skills gaps around emerging and innovative technologies, to increased openness to relying on external service partners or cloud services in order to have access to expertise and the latest technologies.

Factors directly related to the competitiveness of modern companies, such as improving business processes, leveraging company data, automation, and digital transformation represent important challenges at up to one-third of Cypriot companies, depending on the factor. These challenges are driving companies to shift their IT spending to the latest innovative technologies that can provide the greatest improvement in these areas.

The challenges for large enterprises (100+ employees) differ somewhat from those of the overall market, as they focus more on becoming fit for digital business and for technology-enabled business models (digital transformation, automation, and IT and business alignment). Furthermore, when compared with 2017, all these challenges have become more pressing and a high priority for large Cypriot companies (see Table 1).

TABLE 1
Challenges Facing Cypriot Companies, Large Companies – 2019 vs. 2017

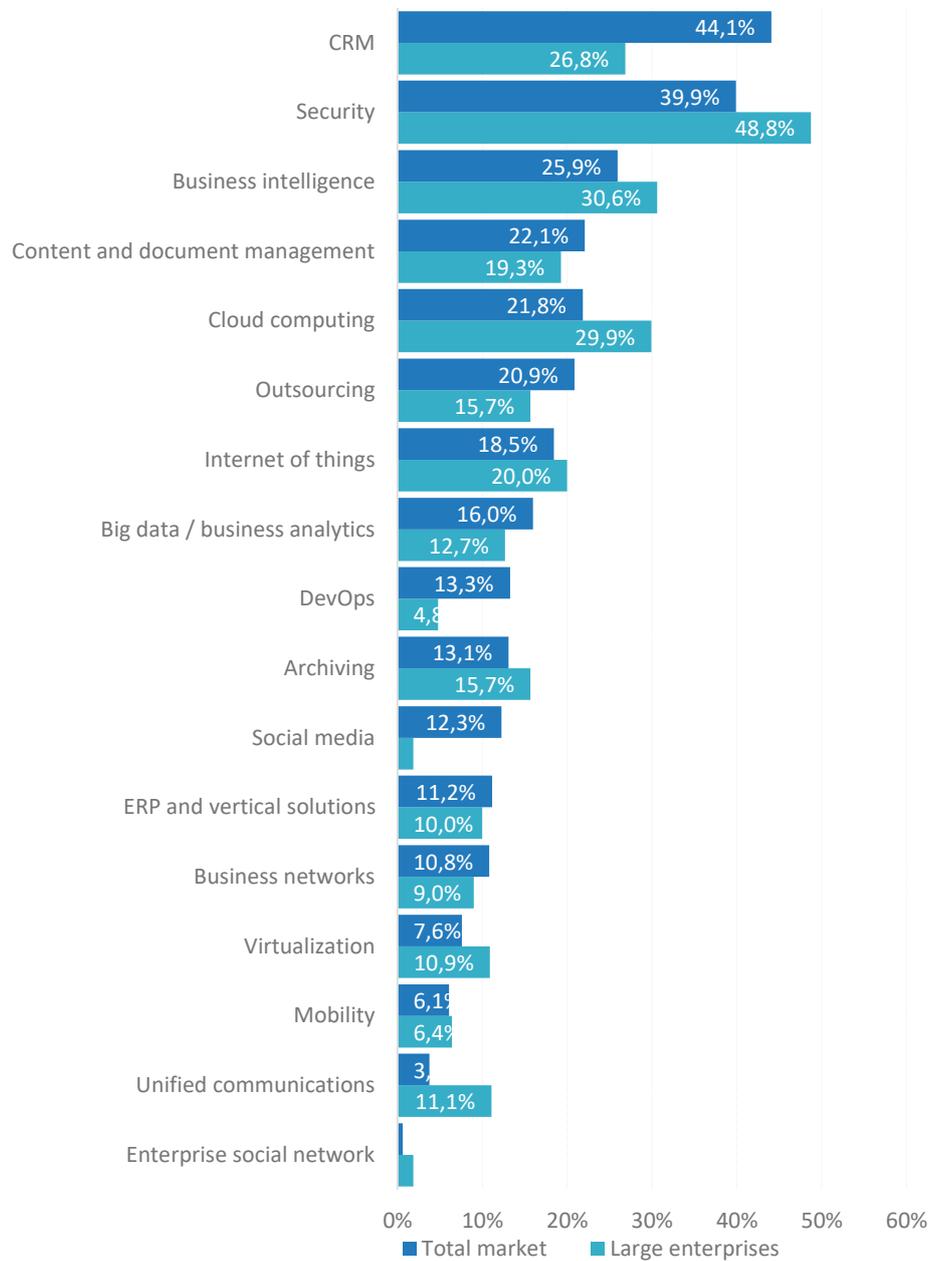
	2019	2017
Top challenges	<ul style="list-style-type: none"> Digital transformation Security Cost reduction Automation Business process improvement 	<ul style="list-style-type: none"> Security Business process improvement Cost reduction Staying up to date with technology Migrating to new software/hardware
Important challenges	<ul style="list-style-type: none"> IT and business alignment Leveraging company data Staying up to date with technology Migrating to new software/hardware Recruiting new staff 	<ul style="list-style-type: none"> Recruiting new staff Meeting internal user requirements IT and business alignment Digital transformation Leveraging company data

Source: IDC Cyprus IT Buyer Survey, 2019

When it comes to IT investment areas, survey results reveal a strong market for customer relationship management (CRM) solutions in Cyprus in 2019 (see Figure 4). CRM is at the forefront of IT investments, particularly among medium-sized companies (50–100 employees). This indicates a shift in the IT development focus from back-office applications such as enterprise resource planning (ERP) to the company's front-end IT.

FIGURE 4 IT Investment Priorities in 2019

Q. In which of the following IT areas is your organisation going to invest in 2019?



Source: IDC Cyprus IT Buyer Survey, 2019

Since security is the most important challenge facing Cypriot companies, it is no surprise that it also remains a top investment priority for two in five companies.

In line with the frequent challenge of leveraging company data, technologies that support the extensive use of data (e.g., business intelligence, analytics, and IoT) are the biggest budget gainers versus two years ago, particularly among large companies. Cloud computing has emerged among the top five most frequent investment areas among Cypriot companies. Public cloud represents a primary delivery option for infrastructure

and applications among medium-sized companies (50–99 employees), while hybrid and private cloud have gained traction as the primary architecture for delivering services among large companies (100+ employees).

Virtualisation, ERP, vertical back-office applications, and mobility appear to be the budget losers, as significantly fewer companies have named them as key investment areas in 2019 when compared with 2017.

TABLE 2
IT Investment Priorities, Large Companies — 2019 vs. 2017

	2019	2017
Top investment areas	Security	Security
	Business intelligence	Content and document management
	Cloud computing	Virtualisation
	CRM	ERP and vertical solutions
	IoT	Cloud computing
Important investment areas	Content and document management	CRM
	Archiving	Archiving
	Outsourcing	Mobility
	Big data analytics	Social media
	Unified communication	Business intelligence

Source: IDC Cyprus IT Buyer Survey, 2019

Skills Gaps Becoming a Barrier to Digital Transformation

Digital transformation clearly stands out as the overarching priority of large companies (100+ employees) in Cyprus, across all industries. While more than 9 in 10 companies claim to have a digital transformation strategy in place, they struggle with a series of obstacles when executing it. Companies typically struggle with the lack of support from employees, the lack of a clear business case, and the lack of expertise within the company or at ecosystems partners.

The lack of expertise comes from a gap in the technology- and business-related digital skills between the needs and the existing capabilities of companies, further accentuated by the difficulties in finding and hiring new talent (as it was indicated among the top challenges of companies).

Most Cypriot companies are struggling with significant skills gaps in relation to IoT, artificial intelligence, and traditional application development (see table 3). The situation is better with security, big data analytics, and cloud, although nearly one in four companies continue to face a skills gap in those areas. Due to their managed innovation activities and strategies to create a technology-enabled competitive advantage, large companies have a heightened need for digital competencies, and are struggling with significant skill gaps around almost all emerging technologies.

TABLE 3
Skill Gaps of Cypriot Companies

	Total market	Large companies
Frequent gap (25%+ of companies)	IoT Artificial intelligence Traditional application development	Cloud IoT Big Data analytics, data science Robotic process automation Artificial intelligence
Moderately frequent gap (20-25%)	Security Big Data analytics, data science Mobile technologies	Traditional application development Mobile technologies
Low frequency gap (below 20%)	Networking skills Cloud Robotic process automation Process and delivery skills, such as ITIL	Networking skills Process and delivery skills, such as ITIL Traditional application development

Source: IDC Cyprus IT Buyer Survey, 2019

ANALYSIS OF THE IT SERVICES MARKET IN CYPRUS

Overview of IT Services Spending in Cyprus by IDC Foundation Markets

This section of the study examines the IT services industry by IDC's three primary markets, which are further segmented by foundation market. The thirteen foundation markets presented in this study represent the total addressable IT services market in its entirety (collectively exhaustive), and these individual markets do not overlap with each other (mutually exclusive).

The IT services market in Cyprus reached €100.33 million in value in 2018, representing growth of 12.7% from the levels seen in 2016. Support and training services accounted for the largest share of IT services market revenue in 2018 (47.3%), followed by project services (35.9%), and outsourcing services (16.8%).

Support and Training Services

The support and training services primary market in Cyprus totalled €47.42 million in value in 2018, making it the country's largest primary market, with 47.3% share. Spending on these services was up 6.8% compared to 2016, with the growth primarily coming from software support and maintenance services.

Close to 80% of Cypriot companies with more than 50 employees prefer to keep the management of their on-premise infrastructure and applications in-house, using their own resources, rather than use external outsourcing or managed service providers. This results in high demand for support and maintenance services. As a result, hardware and software support and installation services accounted for 43.9% share of total IT services spending in Cyprus in 2018.

Cypriot companies continue to invest in software support services, as they are adopting new software-centric solutions such as CRM in their front-end processes; BI, analytics, and data management software in their back-end processes; and private and hybrid cloud infrastructure management in their infrastructure. These are all driving spending on software support and installation services, while spending on hardware support and installation has dropped slightly in the past two years as compute density keeps on increasing and the price of commodity hardware is at an all-time low. Virtualisation further eliminates the need for huge hardware investments, and most datacenter projects are limited to the replacement of outdated equipment.

IDC forecasts growth in IT training and education services spending as further training and skill upgrades are, and will be, needed with the use of new digital technologies.

TABLE 4

Overview of IT Services Spending by IDC Foundation Markets in Cyprus, 2018

Foundation Markets	Value (€M)	Share (%)
Hardware Support and Installation	19.44	19.4%
Software Support and Installation	24.57	24.5%
IT Training and Education	3.42	3.4%
Support and Training Services Subtotal	47.42	47.3%
Network Consulting and Integration	4.27	4.3%
Systems Integration	15.34	15.3%
Information System Consulting	6.78	6.8%
Application Consulting and Customisation	6.01	6.0%
Custom Application Development	3.65	3.6%
Project Services Subtotal	36.05	35.9%
Application Management Outsourcing	0.75	0.7%
Information System Outsourcing	2.77	2.8%
Network and Desktop Outsourcing Services	1.62	1.6%
Hosted Application Management	2.11	2.1%
Hosting Infrastructure Services	9.62	9.6%
Outsourcing Services Subtotal	16.86	16.8%
Total IT Services Spending	100.33	100.0%

Source: IDC, 2019

Project Services

The project services primary market in Cyprus totalled €36.05 million in 2018, making it the second-largest primary market in the country, with 35.9% share. This primary market was the fastest growing, with a 21.0% increase in the past two years. Consulting and application customisation and development services made up the bulk of the growth, but systems integration also expanded healthily.

Project services will remain the fastest-growing primary market. Companies are accelerating their digital transformation, application modernisation, and technology-based service and product innovation. This results in lucrative application consulting, customisation, and development projects related to analytics, mobile and online channels, customer relationship and experience management, digitalisation of processes, and cloud migration. The need for adjunct systems integration services like integration of applications running on various infrastructure platforms, integration with edge technologies, and integration of cloud and on-premises solutions is also increasing.

Although IT departments would like to keep all competencies in house, the skills shortage in emerging domains like enterprise architecture, analytics, IoT, cloud services, and cloud and hybrid infrastructure management — and even in more traditional areas like application development, testing, and security — is forcing them to rely more on external service providers.

Outsourcing Services

The outsourcing primary market totalled €16.86 million in value in 2018, making it the third-largest primary market in Cyprus, with 16.8% share.

Hosting infrastructure services accounted for the largest share of the outsourcing services primary market, with a 9.6% share of total IT services spending. Once again, outsourcing services made up the smallest portion of the IT services market. Among companies with over 100 employees, approximately 15% and 12% are considering outsourcing their infrastructure management and application management, respectively, over the next two years. However, outsourcing adoption will be limited by a fear of lock-in and the lack of on-demand scalability of outsourcing contracts, as well as by strong competition from cloud-based application and infrastructure services.

Overview of IT Services Spending in Cyprus by Vertical Market

Federal and central government was the largest vertical market for IT services in Cyprus in 2018, with €22.39 million in spending and 22.3% market share. Banking ranked second, with IT services spending of €21.94 million representing a 21.9% share. Telecommunications ranked as the third-largest vertical market, with IT services investment of €21.19 million and 21.1% market share.

Combined Finance

IT spending in the combined finance vertical in Cyprus totaled €30.60 million in 2018. Rapid economic growth has resulted in steady upgrades of credit ratings and improved investor confidence, while consolidation through acquisitions has stabilised the banking sector in Cyprus. The banking sector consists of two main tiers: banking institutions oriented around local business, and some 30 international banks. The key players in the banking sector in Cyprus include Bank of Cyprus, Hellenic Bank, and RCB Bank, while the rest of the market consists of smaller banks and subsidiaries of foreign banks like Greek Alpha Bank and Eurobank. The Cyprus Cooperative Bank (CCB) used to belong to the above-mentioned group of top banks, but last year it was acquired by Hellenic Bank.

TABLE 5
Overview of IT Services Spending by Vertical Markets in Cyprus, 2018

Vertical Markets	Value (€M)	Share (%)
Telecommunications	21.19	21.1%
Federal/Central Government	22.39	22.3%
Banking	21.94	21.9%
Securities and Investment Services	5.89	5.9%
Retail	5.54	5.5%
Education	4.36	4.3%
Professional Services	3.25	3.2%
Insurance	2.77	2.8%
Wholesale	2.41	2.4%
Media	1.93	1.9%
Personal and Consumer Services	1.84	1.8%
Utilities	1.59	1.6%
Healthcare Provider	1.50	1.5%
Process Manufacturing	0.97	1.0%
Discrete Manufacturing	0.75	0.7%
Transportation	0.74	0.7%
Construction	0.67	0.7%
State/Local Government	0.30	0.3%
Resource Industries	0.29	0.3%
Total IT Services Spending	100.33	100.0%
Aggregated Verticals		
Combined Finance	30.60	30.5%
Telecommunications and Media	23.12	23.0%
Government	22.68	22.6%

Source: IDC, 2019

The ongoing transformation of the banking sector has earned praise from international partners, and Cyprus now has a high level of compliance — with some requirements even more demanding than in other member states of the EU. A strong focus is placed on digital transformation and making services and activities more innovative.

An example of innovations in the wider financial industry is an initiative by the Cyprus Securities and Exchange Commission (CySEC) to further enhance the landscape for financial services and e-solutions. CySEC aims to offer support to market participants that are introducing innovative financial products or services, principally through building their understanding of any applicable regulations and compliance requirements.

Telecommunications and Media

The telecom industry is capitalising on the position of Cyprus on the crossroads of Europe, Asia, and Africa. For this, Cyprus leverages a fully digital network with stable connectivity, utilising fibre-optic submarine cables and dedicated fibre links to major international points of presence. In terms of telecom services, Cyprus has one of the cheapest call rates in the EU, and ICT stakeholders expect that the execution of the Cyprus Broadband Plan will significantly improve the broadband coverage of the country, even if some of the targets of the plan seem too ambitious. The Cyprus Broadband Plan envisages 100% coverage at speeds of at least 100Mbps by the end of 2020. With the support of EU funds, by 2020, fibre-to-the-home (FTTH) networks should be made available to every private residence.

The major mobile providers — Cyta, MTN, and PrimeTel — have all been awarded temporary concessions to trial 5G technology. These networks will operate in the 3400MHz–3800MHz frequency band, which has been designated by the European Commission and the member states of the EU as the "pilot zone" for the use of 5G across the EU. The Cypriot government has allowed the country's mobile telecom operators to run 5G networks for testing purposes until November 2019. At the same time, preparations for the official 5G license awards have started, with the respective frequency bands to be officially awarded in the last quarter of 2019. Subsequently, the commercial introduction of 5G services in Cyprus is expected to take place in 2020.

In a separate move, the Ministry of Transport, Communications, and Works has revealed its Broadband Subsidy Grant Scheme, funded by the state budget, which will distribute around €800,000 to eligible companies in 2019/2020, on condition that they provide at least one product with a 100Mbps downlink speed. The total amount of support will cover 30% of the monthly subscription cost for the period of twelve months, with a maximum of €30 per month. The main objective of the Broadband Subsidy Grant Scheme is to increase the demand for ultra-high-speed connections while, at the same time, encouraging the market to invest in high-speed networks.

Among other priorities, telcos are focusing on developing innovative services related to IoT and extending their strategic partnerships. Telcos are faced with the challenges of digital transformation and are aiming to diversify their portfolios beyond traditional core products and services to generate revenue streams from value-added services of high quality.

Government

The government of Cyprus has made full use of the thriving economy and its positive prospects and is planning a widespread rollout of IT solutions and services, thus offering opportunities for both local and international IT companies. Though still behind the EU average, Cyprus is progressing steadily in making government services available online.

The government realises the potential of ICT and regards it as an important source and facilitator of GDP growth. For example, it provided €15 million of funding for the leading ICT institution (the University of Cyprus KIOS Research and Innovation Centre of Excellence), whose multidisciplinary activities focus on monitoring, control, security, and management of critical infrastructure systems (large-scale networks in power, energy, water, and transportation systems, communication networks, etc.).

Thanks to favourable tax conditions, a number of international ICT companies have established regional or global headquarters in Cyprus as a hub for software development, systems integration, testing services, research and development, and marketing and sales. These include NCR (consumer transaction solutions), AMDOCS (leading provider of software to communication and media companies), 3CX, Wargaming, and Viber.

Apart from supporting traditional ICT companies, the Cypriot government also prepared financial incentives for SMBs and start-ups. In order to attract talented professionals from non-EU countries, the government also introduced a new Start-Up Visa Scheme. Successful applicants will initially be allowed to live and work in Cyprus for a year and if they manage to create jobs, their visas can be extended for an indefinite period. The scheme is supposed to be attractive for applicants from the Middle East and Russia. A number of these start-ups have already achieved remarkable results, including a local company SportScientia, which developed a smart insole that uses sensors and motion arrays to measure and monitor weight distribution.

Tourism

The tourism industry in Cyprus is enjoying an extraordinarily fruitful period. In 2018, it contributed more than 14% of the country's GDP, and is one of the main engines of the GDP growth. The number of tourist arrivals (3.6 million in 2017) has been increasing rapidly, and proceeds are estimated to have reached approximately €3 billion. The main objective is to extend the tourist season and change Cyprus from a typical summer holiday location to a year-round destination.

The objectives of the new tourism strategy — which envisages the number of international tourists exceeding 4 million and generating income for the country of some €3.5 billion in 2025 — need to be revised upwards, as these figures were already almost met in 2018. Around €20 billion is set to be invested in tourism by 2030, and 47,000 mostly well-paid jobs created by the same year. The overall modernisation will undoubtedly involve ICT components. The focus of the strategy is on developing the country's tourism potential in high-end services in niche areas, despite the fact that Cyprus will continue to capitalise on its ideal weather and its world-class beaches as main attractions for tourists. But while an ordinary foreign tourist currently spends less

than €100 a day in Cyprus, this is set to increase to €250-250 during the life of the strategy.

The plans include the building of an integrated five-star luxury casino in Nicosia, with a gaming area of 7,500 square metres, 1,200 gaming machines, and some 140 tables. After its second year of full operation, the casino is expected to contribute around €700 million (equivalent of 4% of GDP) to the Cypriot economy. Additionally, several smaller casinos are scheduled to open in 2019. Other promising areas for future growth and investments are, for example, sports tourism (diving, golf, winter practice for athletes), medical and wellness tourism (cosmetic surgery or fertility treatment), wedding tourism (the option of civil marriage ceremonies is attractive for Israelis and tourists from the Arab world), sailing and maritime tourism, and rural tourism.

Shipping

The shipping industry, which accounts for roughly 7% of the country's GDP (much higher than in other important seafaring countries), escaped virtually unscathed from the financial crisis and difficult period of 2013–2016. On the contrary, the shipping sector continues to serve as a generator of foreign direct investment and is even set to profit further as a result of Brexit.

A number of UK-regulated ship insurers have set up subsidiaries in Cyprus out of fear that the envisaged exit of the UK from the EU will make access to EU financial markets more difficult. Greek shipowners based in London have also relocated to Cyprus.

Among further positive prospects for this vertical are the recently discovered natural oil reserves close to island's shore, as well as the establishment of the independent Deputy Ministry of Shipping based in Limassol a year ago. The new institution replaced the previous Department of Merchant Shipping with 24x7 support services and crisis management utilising up-to-date electronic and mobile technologies. In a separate move, the Faculty of Marine Sciences and Technology in Larnaca of the University of Cyprus opened classes in 2018. The courses will be in English, and the aim is to supply employers in the shipping industry with high-quality workforce.

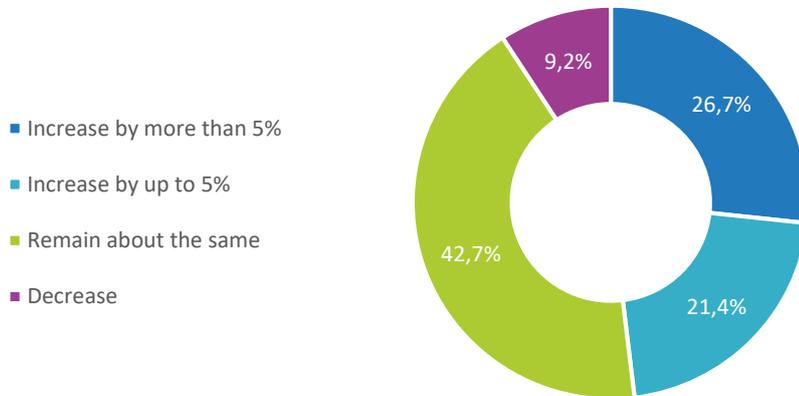
When leveraging these opportunities, Cyprus is set to maintain and even strengthen its position as a shipping world power. The Cyprus registry is the third-largest merchant fleet in Europe and the largest center of ship management in the EU, with a fleet of 2,500 vessels under its control. Around a quarter of global third-party ship management activities are controlled from Cyprus. The country boasts some 200 shipping companies, most of which are world-renowned in the industry.

IT Services Trends — Budgets and Sourcing

Nearly a quarter of companies with more than 50 employees report that they expect their budget for external IT services to increase by more than 5% in 2019; conversely, only 1 in 10 expect their budgets to decrease. This trend of increasing budgets among medium-sized and large Cypriot companies supports our expectations for dynamic growth of the IT services market in 2019.

FIGURE 5 Spending Dynamics on External IT Services in 2019

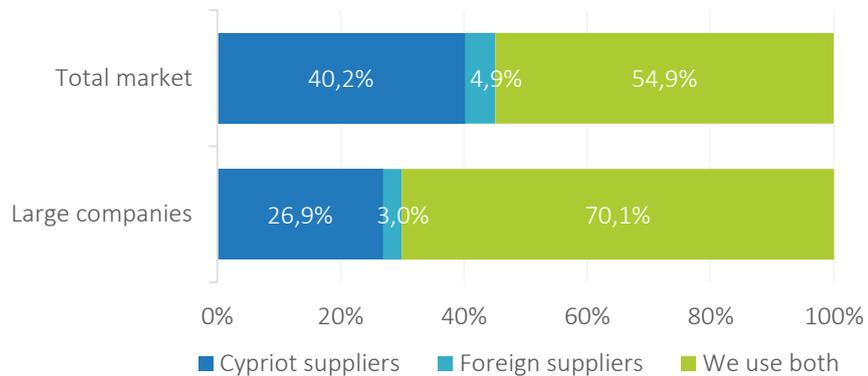
Q. What will happen to your organisation's total external IT services spending in 2019?



Source: IDC Cyprus IT Buyer Survey, 2019

FIGURE 6 IT Services Vendor Preference by Origin

Q. Do you use local rather than foreign vendors for IT services?



Source: IDC Cyprus IT Buyer Survey, 2019

Two-fifths of companies prefer to work with Cypriot IT services suppliers, while nearly all the rest are open to working with both Cypriot and foreign companies. Large companies have less of a preference for working exclusively with Cypriot companies.

IT Services Trends — Emerging Service Types

Figure 7 provides an indication of the potential for growth of eight service types delivered by external service providers and two internally delivered services. The potential for growth is indicated based on plans to increase or decrease the use of a service (among existing user companies) and plans to start using the services (among non-user, new buyer companies). The size of the bubbles are proportional to the current level of usage.

Internal Infrastructure Services

The two services represented with red bubbles are internally delivered services, where companies do not use external service providers beyond support and maintenance services integrated into their in-house delivered services. Budgets (internal spending) for the management of traditional on-premise infrastructure will very likely shrink in the next two years, as nearly 20% of user companies plan to decrease its usage as they switch to private or public cloud infrastructures. The shift to private-cloud infrastructures is taking place at a fast pace, and creates several opportunities in consulting, migration, systems integration, and outsourcing services for services vendors, even if the management of these infrastructures will remain in-house in most cases.

Cluster 1 — Growth Champions

Public and private cloud, as the new primary delivery model of IT functions, clearly represent a strong driver of the services market. All three services in the cluster of future growth champions are cloud related, and they represent the shooting stars of the market. Cloud migration clearly stands out as the service with the highest potential for growth, both among existing users and new buyers, followed by infrastructure-as-a-service and the management of cloud-based applications.

Cluster 2 — Unsaturated Services

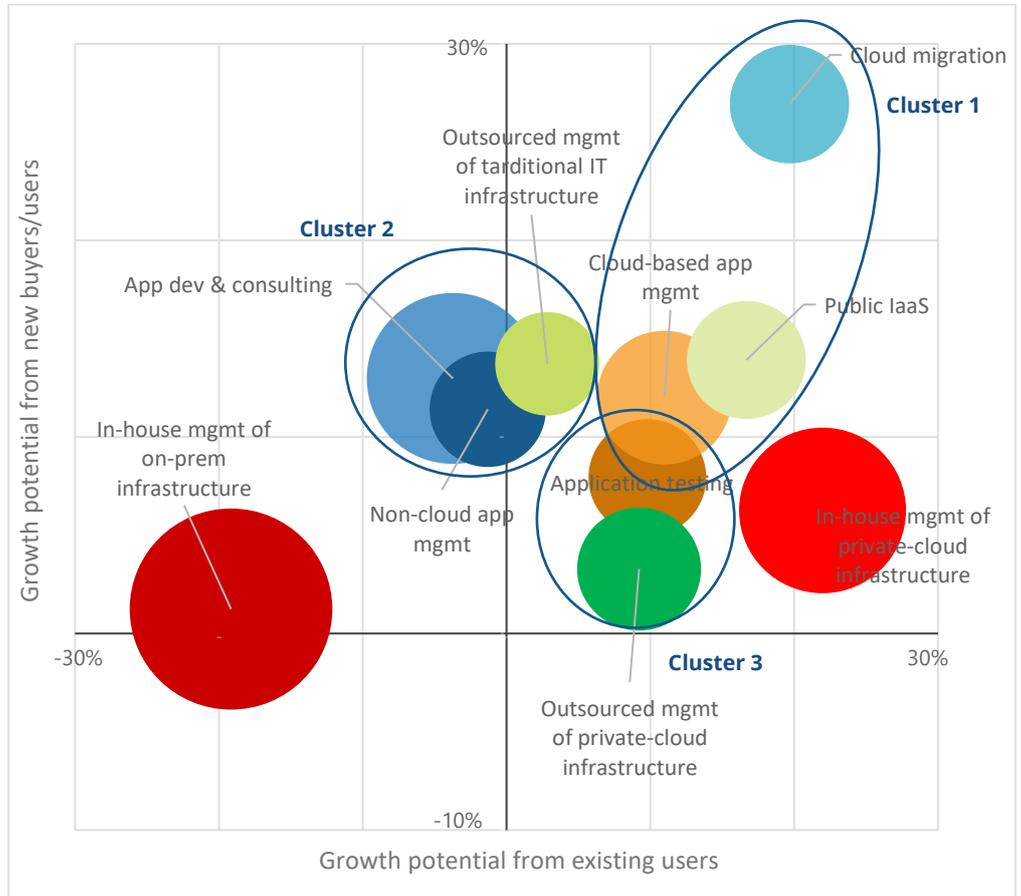
These services have significant potential among new buyers, but a relatively stagnant market with existing users. Business opportunities for vendors with these services depend on their ability to pursue new customers and new market segments. They include outsourced management of traditional infrastructures and management of non-cloud applications. While companies are open to buying these management services from external partners, the traditional outsourcing models (governed by long-term lock-ins with a service provider and rigid contracts and cost structures) are no longer attractive on the market. Therefore, these opportunities can only be capitalised with more flexible managed services offerings.

The potential of application development, consulting, and management with existing customers is being cannibalised to a certain extent by the emerging use of cloud-based applications. However, the potential with new customers exists in both the large and the medium-sized business segments of the market, as companies are keen to implement innovative applications in various solution areas and business functions.

FIGURE 7

Growth Potential of Various Service Types in the Next Two Years

Q. Does your organisation plan to increase/decrease usage of the following services form external partners in the next two years?



Note: Value on Axis X = % of companies already using the service and planning to increase/decrease usage

Value on Axis Y = % of companies not using the service and planning to start using it

Size of Bubble = % of companies already using the service

Source: IDC Cyprus IT Buyer Survey, 2019

Cluster 3 — Milk Cow Services

These are established services with the growth potential among existing users outpacing the potential of selling them to new users. They include outsourced management of private-cloud infrastructure, application testing, and support services for in-house delivered management of private-cloud infrastructures. The market potential of these services is mostly limited to upscaling with existing customers to deliver higher margins to vendors with lower sales efforts.

IT Services Trends — The Opportunity of Emerging Solutions

The overall market and the large enterprise segment (100+ employees) show different pictures when it comes to potential and readiness for emerging technologies.

Large companies (100+ employees) seem to be less ready to implement cognitive/AI, RPA, blockchain, and AR/VR technologies than the overall market. IDC believes the reasons are a mix of objective and subjective factors. Among the objective reasons are the higher complexity of the organisational, process, and architecture changes needed to implement these technologies, alongside a more conservative approach to gauging accurate ROI on technology investments. The subjective reasons relate to the enthusiasm for and the inaccurate knowledge of technology, its benefits, and fit with smaller companies' organisational goals, which skews the evaluation of readiness in the total market toward the positive side.

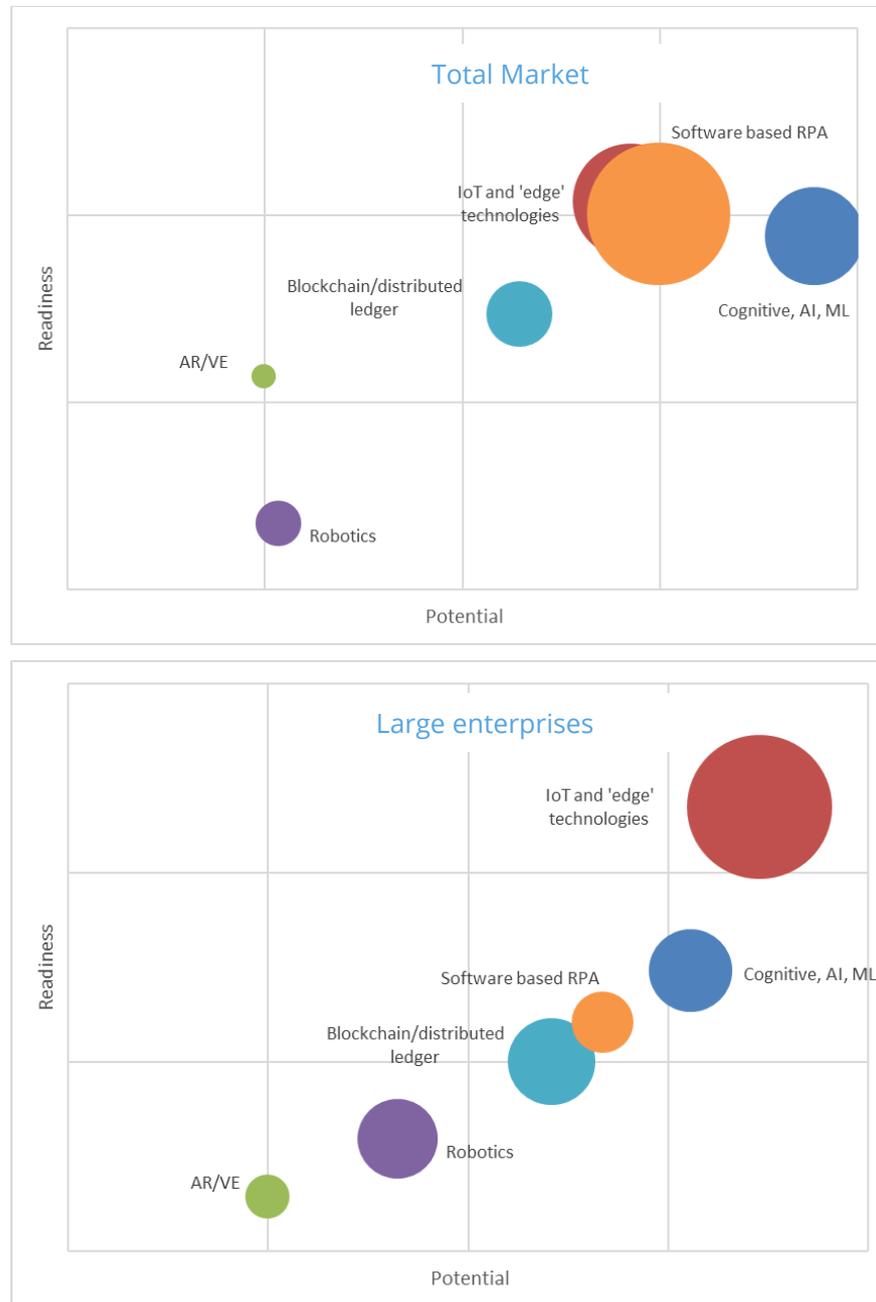
Large companies (100+ employees) regard IoT as the primary emerging technology to focus on in the short term, and cognitive/AI and RPA as the next wave. Robotics — if only limited to manufacturing and some adjunct industries like logistics and warehousing — also represents a solution with high potential and readiness, as well as relatively high current levels of usage too.

When it comes to the overall market (including smaller companies), cognitive/AI and RPA stand out as the emerging technology solutions with most potential and highest readiness among companies to adopt them. The high scores can be attributed to certain solutions like chatbots or online recommendations in the AI space, or simple financial or payroll RPA solutions that are of particular interest to numerous smaller companies.

FIGURE 8

Service Opportunity for Emerging Technologies in the Next Two Years

Q. Is your organisation using an external IT services provider to help plan, pilot, or deploy the following new technologies in the next 24 months?



Note:

Value on Axis X = % of companies with the technology already deployed or being evaluated

Value on Axis Y = % of companies ready to deploy the technology or already deployed the technology

Size of Bubble = % of companies already using the technology

Source: IDC Cyprus IT Buyer Survey, 2019

FUTURE OUTLOOK

Market Forces

As reflected in our forecast, the following market forces will have a direct impact on the Cypriot market in the coming years:

- **Solid economic growth:** Cyprus has largely recovered from the financial and economic turmoil that hit the country five years ago. Steady economic growth of 3–4% and a healthy overall economic environment, including stabilisation of the banking sector, are basic prerequisites for development of the ICT industry. The recently found deposits of natural gas off the Cypriot coast are also expected to positively contribute to the country's economy. Improved economic performance naturally goes hand in hand with high business confidence.
- **Government support for ICT infrastructure:** The government is aware of the potential of ICT to improve the performance of all major verticals of the economy. That is why it introduced an ambitious broadband plan to reach 100% coverage with high-speed Internet access of at least 100Mbps by 2020. Additionally, temporary concessions to test 5G mobile services have been awarded to all major providers, and the commercial launch is expected to take place next year.
- **Innovation and start-ups:** As the above-mentioned drivers could be limited by the lack of qualified ICT personnel, the government also offers financial incentives for innovative start-ups, including start-up visas for international talents from non-EU countries. Also, local universities and technology institutes are stepping up their efforts and producing an increasing number of highly skilled graduates in order to meet the demand from Cypriot companies.
- **Digital transformation:** Digitalisation of core processes is crucial for organisations in both the public and the private sectors in order to keep up with an increasingly dynamic competitive environment and provide improved services to internal and external users. The result of digital transformation should be the restructuring of organisational processes, especially those pertaining to customer service and information management.

Market Forecast

IDC expects ICT spending (including the telecom market) in Cyprus to increase 2.8% year on year in 2019 to total €678.14 million.

IT spending (excluding the telecom market) is expected to increase 6.1% year on year in 2019 to total €222.87 million.

IT services spending is expected to increase 8.6% year on year in 2019 to total €108.91 million.

The Cypriot economy is expected to continue to improve, and IDC predicts that spending across all ICT market segments in Cyprus will grow.

IT services and software will be the best-performing segments over the forecast period, posting compound annual growth rates of 7.2% and 4.5%, respectively, due to increased demand for digitally enhanced solutions and services.

TABLE 6
Overview of ICT Markets in Cyprus 2016-2021

Market Segments	2016	2017	2018	2019	2020	2021	CAGR (%) 2016–2021
Total ICT Market	640.74	640.12	659.39	678.14	695.80	712.29	2.1%
Total IT Market	190.94	197.31	210.05	222.87	235.29	246.62	5.3%
Total Telecommunications Market	449.80	442.81	449.34	455.28	460.51	465.67	0.7%
Total IT Equipment	68.00	70.11	72.60	74.90	76.72	78.26	2.9%
Total IT Services	89.04	92.03	100.33	108.91	117.76	126.09	7.2%
Total Software	33.90	35.17	37.13	39.05	40.82	42.27	4.5%

Source: IDC, 2019

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Exploiting the Current Economic Climate and Business Confidence

The Cypriot economy has successfully recovered from the global financial crisis and continues to thrive; this naturally means improved business confidence and a renewed appetite for investment.

Major investments and infrastructure projects are planned across the economy. Finance organisations will invest in GDPR and regulatory compliance, and other projects will take place in the telecom, shipping, tourism, and public sectors. It is important that local suppliers, in collaboration with leading global vendors, meet the increasing demands for sector-specific services and solutions. Even the effects of Brexit may not be entirely negative for Cyprus and its companies, as many UK companies, thanks to historical ties between the two countries, are interested in setting up subsidiaries or relocating to Cyprus. For Cyprus, as a small market, it is critical to look for opportunities (and technology alliances) abroad, particularly in countries with close ties to Cyprus. The provision of software-as-a-service solutions alleviates the need for on-site support, and thus simplifies access to international markets.

Facing the Digital Transformation Challenges with a Skilled Workforce

Digital transformation among Cypriot companies has finally started and enjoys support from the government. It is crucial that IT companies have the necessary professionals with adequate skills able to cope with the challenges of digital transformation across verticals. The level of skills among graduates is generally considered as very good, but their number is too low to satisfy the needs of IT companies in Cyprus, so they often need to find the relevant skills abroad. Collaboration with innovative start-ups, supported by financial incentives, might be a way to alleviate the issue. Another suggestion could be joining forces with the specialised research and innovation institutes gathered under RISE, the new Research Center of Interactive Media, Smart Systems and Emerging Technologies.

Building Your Competence Around Emerging Technologies

A host of emerging technologies have passed the hype phase, and Cypriot companies are looking for trusted advisor partners that can help with identifying relevant use cases, building strategies, and executing development and implementation. It is high time for service providers to critically assess the future business and margin-generating performance of their current services portfolios, and consider building expertise around emerging innovative technologies that best fit their customer base and capabilities. In the following phase, IT services companies should consider reskilling sales personnel to be able to effectively address LoB and IT decision makers on digital business topics, and intensifying their marketing efforts to reposition the company.

APPENDIX

List of Abbreviations

5G – Fifth Generation (of mobile service technologies)

CCB – Cyprus Cooperative Bank

CySEC – Cyprus Securities and Exchange Commission

EU – European Union

FTTH – Fibre-to-the-Home

GDP – Gross Domestic Product

GDPR – General Data Protection Regulation

ICT – Information and Communication Technologies

IoT – Internet of Things

IT – Information Technology

LoB – Line of Business

Mbps – Megabits per second

RISE – Research Center of Interactive Media, Smart Systems and Emerging Technologies

SMB – Small and Medium-Sized Businesses

UK – United Kingdom

Research Sources

IDC utilises both qualitative and quantitative approaches. For this study, analysts conducted interviews with both end users and major IT services providers operating in Cyprus. Qualitative interviews were further complemented by quantitative online and offline surveys covering both the demand and supply side. IDC has found the approach of in-depth personal interviews to be an effective and efficient means of undertaking market research in the region of Central and Eastern Europe, the Middle East, and Africa (CEMA).

IDC also evaluated publicly available quantitative and qualitative information, such as annual reports, homepage listings of financial information, and filings with security commissions, as well as secondary source literature, academic texts, and publicly available government information. It is important to note that no one source is dominant. In each case, IDC analysts weight all sets of inputs and use their judgment as to which sources are more likely to be accurate. The weight of any one variable changes based on the revenue being evaluated, the relationship with the supplier, the detailed information available through public sources, and other relevant factors.

IDC has also carried out a survey of Cypriot companies with more than 50 employees, the "IDC Cyprus IT Buyer Survey, 2019", to assess technology buyer priorities, preferences, and trends. The universe of companies with more than 50 employees provides more than 90% of the spending on IT services, software, and enterprise hardware in Cyprus and therefore constitutes the primary target market of IT vendor companies. The survey was carried out online in the period of April-May 2019.

Market Representation

All charts sourced from the IDC Cyprus IT Buyer Survey, 2019 shows results for the market composed by companies with more than 50 employees, unless specified differently. The large enterprise segment in these charts is defined as companies with more than 100 employees.

Revenue Recognition

To attain an aggregate number for the IT services market, IDC has isolated revenue that was generated through third-party IT services providers. It is necessary to understand subcontracting between service providers. In order to comprehend this procedure, the prime contractor records a contract as a source of revenue, and so does the subcontractor, and so on. As IDC's 13 foundation market categories are based on demand-side spending (reporting on end-user purchases of services from third-party providers), subcontracted revenue to third parties must be eliminated when determining the total size of the IT services market.

Notes on Forecasting

IDC uses surveys, technology assessment, country demographics, and economic data to develop forecasts. All of these factors were important in this study. IDC is often asked about its economic assumptions and their relationship to spending trends in the technology marketplace under examination. We usually take a neutral approach to the economy, essentially building our forecasts on historical rates of economic growth. Neutrality is also a goal in the treatment of areas such as inflation. In the estimation of IT services-related expenditure, for example, inflation is considered to be zero or insignificant.

About Cyprus Computer Society (CCS)

The Cyprus Computer Society (CCS) is a professional and independent not-for-profit organisation, seeking to improve and promote high standards among informatics professionals, in recognition of the impact that informatics has on the economy, society, organisations, and citizens' quality of life. Established in 1984, the CCS has been active in the areas of education and training and research and development through the organisation of high-quality events and working groups, collaborations with local and foreign public and private organisations, the implementation of European projects, and active participation in international associations and consortia.

This report signifies the commitment of the CCS to further enhance the quality and portfolio of its services to the ICT and the business community. We envisage that it will prove a useful tool both for foreign investors in the ICT field and the domestic business community.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.