Executive Summary

The Portuguese ICT market amounted to €7.5 billion in 2013, €3.2 billion in Information Technology and €4.3 billion in Telecom Services. This was a contraction of 2.9% when compared to 2012.

Key macroeconomic indicators and IDC surveys with key decision makers suggest that Portugal's economic activity is expected to improve in 2014 and IDC expects that the investment in the Information Technology (IT) sector should reflect this favourable environment. IDC predicts that Portugal's IT market will grow 0.9% in 2014 — approximately €3.25 billion. This leads to a net increase in investment of over €52 million compared to last year.

Despite the Portuguese ICT market size, most Portuguese ICT companies are focused on international markets with strong presence in Lusophone countries, where Portuguese IT services and software companies are leading the market, including Brazil, where Portugal Telecom recently merged with Oi, the second largest telecom operator in Brazil. As a result of this merger, Portugal Telecom – Oi now ranks amongst the world's top 20 telco carriers.

Why consider Portugal?

Portugal has been the nest for some high tech innovations that changed the world we live today. Examples are the Multibanco network, one of the more sophisticated banking networks in the world; Via Verde, the first closed system of automatic highway tolls in the world; and the Pre-Paid Mobile Phones, that quickly became the foundation for the mobile revolution we live today. Portugal is also one of the European countries with the highest FTTH penetration, all 46% of households, and has been in the forefront of the 3G and 4G infrastructure investment. In this context, Portugal is not only a market open to innovation, but also the best gateway to ICT companies in the Lusophone markets.

Examples of areas of expertise and market leadership, described in detail along this report, are:

- Telecom sector solutions
- Financial sector solutions
- Defence sector solutions
- Education sector solutions
- Agile development solutions
- Unified communications applications
- eProcurement platforms
- Mobile Solutions
- ERP software and services
- Gaming and entertainment

ICT Market Overview
Portugal as a gateway to Lusophone markets

Portugal is unquestionably a port of entry into Lusophone countries, in particular into African Lusophone countries such as Angola and Mozambique.

With an expanding economy of more than 258 million people and of almost USD 2.56 billion of GDP, these countries have grown on average more than 3% p.a. between 2008-2012, with Angola and Mozambique growing more than 6%, on average. Opportunities are vast in Lusophone countries, in particular in the domain of infrastructures, ICT, energy, agrifood, among others.

The long lasting relationship of Portugal with these countries presents an excellent opportunity for Canadian companies to make use of Portugal as an investment hub – financially and human resources wise, leveraging on partnerships that Portuguese companies already have in those countries and the knowledge they hold of doing business for decades. The fact that TAP has daily and weekly direct flights to most of Lusophone countries is also an enhancer of Portugal as a hub to these economies.

Brazil today represents USD 180 billion ICT opportunity, 5% of total ICT market worldwide and growing more than 6% year on year in the next 3 years.

Investment in IT in Angola grew by 9.2% last year. In 2012, €580 million were spent on IT in Angola. Mozambique also showed a significant growth in this area last year at 14.2%. However, its starting point of €68 million was much lower than Angolan's. In the other African Portuguese Speaking Countries — Cape Verde, Guinea-Bissau, Sao Tome and Principe — €16 million was invested in IT in 2012. In 2013 investment grew 9.7% with Cape Verde being the biggest spender.

Portuguese IT Services and software companies are leading the ICT market in Africa Lusophone countries and have a strong presence in Brazil, where Portugal Telecom recently merged with Oi, the second largest telecom operator in Brazil. As a result of this merger, Portugal Telecom – Oi now ranks amongst the world's top 20 telco carriers.

The Domestic ICT Market

The Portuguese ICT market amounted to €7.5 billion in 2013, €3.2 billion in Information Technology and €4.3 billion in Telecom Services. This was a contraction of 2.9% when compared to 2012.

Key macroeconomic indicators suggest that Portugal's economic activity is expected to improve in 2014 and IDC expects that the investment in the Information Technology (IT) sector should reflect this favourable environment. IDC predicts that Portugal's IT market will grow 0.9% in 2014 — approximately €3.25 billion. This leads to a net increase in investment of over €52 million compared to last year.

After a period of rapid growth, communication services have reached maturity in contrast with other Lusophone markets.

Portuguese ICT Market, 2013 – 2017 (MC)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>1,641.31</td>
<td>1,647.76</td>
<td>1,617.92</td>
<td>1,616.82</td>
<td>1,604.23</td>
</tr>
<tr>
<td>Packaged Software</td>
<td>511.31</td>
<td>513.58</td>
<td>522.19</td>
<td>531.98</td>
<td>542.45</td>
</tr>
<tr>
<td>IT Services</td>
<td>1,071.32</td>
<td>1,090.82</td>
<td>1,117.98</td>
<td>1,146.30</td>
<td>1,172.58</td>
</tr>
</tbody>
</table>
Total IT | 3,223.94 | 3,252.16 | 3,258.10 | 3,295.10 | 3,319.26
Telecom Services | 4,336.21 | 4,258.38 | 4,196.26 | 4,148.07 | 4,104.31
Total ICT | 7,560.14 | 7,510.54 | 7,454.36 | 7,443.17 | 7,423.57

Portuguese ICT Market Annual Growth, 2013 – 2017 (%)

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>0.4%</td>
<td>-1.8%</td>
<td>-0.1%</td>
<td>-0.8%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Packaged Software</td>
<td>0.4%</td>
<td>1.7%</td>
<td>1.9%</td>
<td>2.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>IT Services</td>
<td>1.8%</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.3%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Total IT</td>
<td>0.9%</td>
<td>0.2%</td>
<td>1.1%</td>
<td>0.7%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Telecom Services</td>
<td>-1.8%</td>
<td>-1.5%</td>
<td>-1.2%</td>
<td>-1.1%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>Total ICT</td>
<td>-0.8%</td>
<td>-0.8%</td>
<td>-0.2%</td>
<td>-0.3%</td>
<td>-0.8%</td>
</tr>
</tbody>
</table>

Source: IDC, 2014

The IT market's return to growth relies on increasing:

- adoption of cloud computing services to help internationalization
- increase of flexibility and efficiency of processes
- implementation of projects of corporate mobility with a view to increase employee productivity and improve customer relationships
- renovation of some of the technological infrastructure
- growth of information security solutions
- implementation of business solutions (ERP and CRM)

Other technology investments that we will continue to see with some frequency in Portugal are those related to virtualization and technology consolidation projects. There is also the expectation that there will be a strong adoption of big data and business analytics tools.

The Telecommunications Sector

Market Overview

After a period of rapid growth, the telecommunications sector is under pressure due to reduced consumption, increased competition and technological innovation. These factors have affected the sector in different ways. The most noticeable in recent years is a drop in revenue, along with intense pressure to continue investment in fixed-line (fiber) and mobile infrastructure (LTE).

The value of the telecommunications market in Portugal in 2013 amounted to €4.3 billion, €1.1 billion
more than the IT market.

In line with other European countries, contrary to the forecast of an increase of IT investment over the next three years, the telecommunications sector will actually see a drop. The value of the communications market will continue to fall at an annual rate of 1.5% until 2017.

**Portuguese Telecom Market, 2013 – 2017 (MC)**

<table>
<thead>
<tr>
<th>Telecom Services</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Voice</td>
<td>919.08</td>
<td>861.82</td>
<td>807.35</td>
<td>763.26</td>
<td>724.88</td>
</tr>
<tr>
<td>Fixed Data</td>
<td>752.52</td>
<td>762.12</td>
<td>773.60</td>
<td>785.07</td>
<td>795.03</td>
</tr>
<tr>
<td>Wireless Voice</td>
<td>1,265.32</td>
<td>1,212.12</td>
<td>1,167.20</td>
<td>1,132.22</td>
<td>1,106.75</td>
</tr>
<tr>
<td>Wireless Data</td>
<td>1,399.29</td>
<td>1,422.32</td>
<td>1,448.12</td>
<td>1,467.52</td>
<td>1,477.65</td>
</tr>
<tr>
<td>Total</td>
<td>4,336.21</td>
<td>4,258.38</td>
<td>4,196.26</td>
<td>4,148.07</td>
<td>4,104.31</td>
</tr>
</tbody>
</table>

**Portuguese Telecom Market Annual Growth, 2013 – 2017 (%)**

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Voice</td>
<td>-6.3%</td>
<td>-6.4%</td>
<td>-5.5%</td>
<td>-5.0%</td>
<td>-5.9%</td>
</tr>
<tr>
<td>Fixed Data</td>
<td>1.2%</td>
<td>1.3%</td>
<td>1.2%</td>
<td>0.9%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Wireless Voice</td>
<td>-4.2%</td>
<td>-3.7%</td>
<td>-3.0%</td>
<td>-2.3%</td>
<td>-3.5%</td>
</tr>
<tr>
<td>Wireless Data</td>
<td>1.6%</td>
<td>1.8%</td>
<td>1.3%</td>
<td>0.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total</td>
<td>-1.8%</td>
<td>-1.5%</td>
<td>-1.2%</td>
<td>-1.1%</td>
<td>-1.5%</td>
</tr>
</tbody>
</table>

Source: IDC, 2014

The analysis can be seen in the results from 2013 and forecasts for 2014. Whereas last year landline voice communications accounted for €919 million, estimates for 2014 suggest an amount of €861 million. This will be a decrease of 6.3% — just under €58 million.

Business related to data communications over a fixed-line network reached €752 million in 2013. This year, we expect the figure to increase to €762 million. It represents a 1.2% growth, which equates to about €10 million. If we look at the sum of voice and data services over fixed-line networks, the estimates suggest a net negative balance of minus €48 million.

In the mobile sector, voice communications accounted for €1.26 billion in 2013. Forecasts for 2014 indicate a drop of 4.2% to €1.2 billion — €53 million less than the previous year. Again, it is data communications that make the market grow. In 2013 mobile-data services accounted for €1.4 billion
and estimates for 2014 predict an increase in demand for these services. This will account for €1.4 billion — 1.2% more than in 2013. All in all, the growth of €23 million in the mobile data business is not worth the erosion of the €53 million recorded in mobile voice services.

In conclusion, operators face falling profitability in the sector. This could jeopardize future investment and the high level of development that Portugal has achieved in this area.

**Opportunities for Canadian companies in the Portuguese Telco sector**

In conclusion, operators face the above mentioned challenges in the sector. This results in a new market strategy based on information systems. This will lead operators to seek growth opportunities, positioning themselves in the value chain, and exploring new and innovative services. The situation calls for the creation of partnerships for expanding their offer, finding new sources of revenue or co-investment that ensure new market opportunities and innovation. Traditionally, this industry uses different models of outsourcing to reduce costs and focuses on its operational capabilities.

**Mergers and Acquisitions Have Increased in the Last Two Years**

The characterization of the evolution of the telecommunications sector boils down to consolidation, convergence and conversion of networks.

The major telecom operators in Portugal are Portugal Telecom (PT), Zon Optimus and Vodafone. There are also several other smaller operators like Ar Telecom, BT Portugal, Cabovisão, Colt and Oni.

A series of mergers and acquisitions is causing turbulence in the Portuguese telecoms market. In the last two years alone there were five operators who went through a merger or changed their shareholders.

One such case is that of PT and Oi Brazil. Another example is the merger of Zon with Optimus. The merger of PT and Oi was reported on 2 October 2013 and will be fully completed in the second quarter of 2014. This deal creates one of the largest telecom operators in the world, with over 100 million customers, 30,000 employees and a presence on four continents.

The value of the shares resulting from the combining of assets of PT and Oi will be decided in the book building process, which precedes the initial public offering and will be announced on 16 April. The overall strategy for the new giant is still being developed. The new company creates a set of opportunities; in particular, information-system projects that have been a success in the Portuguese market can be replicated in Brazil. This already happens with Portuguese companies that have expertise in specific sectors — such as geographic information systems, security or network infrastructure monitoring.

It should be noted that PT officially launched its data mega-center on 23 September 2013, a major investment located in the country’s center that will provide cloud-computing services to Europe, Africa and Brazil. This new data center will receive a large part of PT’s technological infrastructure that is spread across five other data centers, making it the company’s most important technological hub. This process of integration and consolidation of infrastructure opens a window of opportunity to conduct operations in this area.

The great challenge for PT is being able to market cloud-based services inside and outside the country. The company is looking for technological partners to develop this offer and sell services outside Portugal.
In addition to this, what differentiates PT from its counterpart, Oi, is its knowledge of a more mature technology market, and the products and patents that have resulted from PT’s innovations.

Another merger that demands attention is that of Zon with Optimus.

- 21 January 2013 - Zon Multimedia and Optimus announce the merger
- 7 March 2013 - project is approved
- 27 August 2013 – merger is entered into the Commercial Register

The combined companies became known as Zon Optimus and together they boast 1.6 million TV customers, 917,000 broadband customers, 1.17 million landline voice customers and 3.6 million mobile customers in Portugal.

The new structure of the operator only presented its business strategy at the end of February 2014. We expect a lot of investments in order to integrate and consolidate booth infrastructure and information systems.

Just as PT may offer access to the largest economy in Latin America, Zon Optimus can also open the door to a major African economy. One of its key shareholders is Isabel dos Santos, the main shareholder of Angola’s largest mobile telecommunications operator, Unitel.

Unitel is the result of a joint venture between Sonangol, PT and Vidatel.

The shareholder structure is:

- 25% PT
- 25% Isabel dos Santos
- 50% Sonangol and Vidatel.

Given the proximity of a Unitel shareholder with Zon Optimus, PT is expected to sell its shares and Zon Optimus will take up its position. The split between PT and Unitel is almost certain, it's unclear, though, when this will happen and how much PT will receive.

But it’s not only large operators that are engaging in mergers and acquisitions. In February 2012 the French group Altice acquired Canadian company Cogeco Cable’s shares in Cabovisão for approximately €45 million. The same French group acquired in June 2013 all the shares of Oni – an operator aimed more at the business market for large accounts and shared services of IT infrastructure. Despite the shareholder being the same, the two operators continue to operate separately. Part of the strategy for reducing operating costs at Cabovisão and Oni is sharing the management and cost of infrastructure. It’s worth noting that Oni has been in the Angolan market since 2010, offering communication services and integration of information systems.

**Universal Service to Be Provided By a New Entrant**

On 1 July 2014 the operator responsible for providing the universal service in electronic communications in Portugal — Portugal Telecom (PT) —will change. On 20 February 2014 the Council of Ministers repealed a law, which had granted PT the operation of the public telecommunications services until 2025. Ending this agreement early means that the Portuguese State will pay PT €33.5 million compensation.

Zon and Optimus won the tender to provide the service in 2013 before the merger of their companies. Now, Zon Optimus will provide fixed-line services across the country for approximately €12 million. The process was expected to have been completed by January. The government justified
the delay by saying that the companies' positions had changed since winning the tender (Optimus had won the North and Zon the South plus the Islands) and it was necessary to review the technical plan.

The European Commission opened an infringement procedure against the Portuguese State for awarding the telecommunications universal service to PT through a private agreement without a tender. The signing of the contract with Zon Optimus will put an end to the dispute.

The Software Sector

Main Portuguese Software Houses

Most Portuguese software companies focus on providing services and product integration from major global software vendors.

One of the biggest Portuguese companies with their own product is WeDo Technologies. WeDo has 180 customers in 80 countries and 450 employees. In 2012 it reported revenue of €55 million. Its main product is Revenue Assurance. It is a world leader and sells to the telecommunications sector.

The key areas for WeDo Technologies are:

- Revenue Assurance
- Cost and Margin Assurance
- Loss Prevention
- Income Protection
- Fraud Management
- Traffic Analysis
- Roaming Management
- Credit & Collections
- Commissioning Management
- Customer Value Management

After achieving recognition with its RAID product, the company adapted its solution to other sectors and is seeking to enter sectors such as finance, large retailers and energy companies.

One of WeDo's most recent successes outside the telecommunications sector was becoming a provider for Mexico Walmart. The company also just launched the latest version of Revenue Assurance at the Mobile World Congress in Barcelona.

Feedzai is another Portuguese company operating in the area of Big Data solutions on risk management and fraud. This startup works with big data and has clients like Coca-Cola, Logica (CGI), Vodafone, Ericsson, SIBS Payment Solutions, Horizon Wind Energy and Servebase Credit Card Solutions. The company received last year a set of investments to leverage its internationalization in the United States. Investors are Data Collective, EDP Ventures, Espírito Santo Ventures, Novabase Capital and SAP. The company is present in the United States and the United Kingdom.

Another company with a strong presence in the telecom sector is AnubisNetworks, who is specialized in network security. The company began with MPS Enterprise, an application that reduces impact of spam in email, and then developed a version focused on telecom operators: the MPS Service Provider. Most of the Portuguese telecom operators and also some international ones use it. Vodafone uses this solution in all its European subsidiaries to manage spam traffic. AnubisNetworks
also has a solution for real-time management of IP infections: Cyberfeed. With such a solid range of products it is looking to export to Southeast Asia (Indonesia Office) and Latin America. It also has a local office in Reading, UK.

Another company with strong presence in the telecom sector is **WIT Software** with headquarters in Coimbra and offices in Reading (UK) and Menlo Park (California, USA). Its solutions are used in 15 countries for clients like Vodafone, Telefonica, Orange, Deutsche Telekom and TeliaSonera.

WIT Software targets two areas:

1. Unified communications
2. Radio computing services (RCS) applications and solutions that converge with
   a. The IP Multimedia Subsystem (IMS) for voice (VoIP, mobile VoIP and voice over LTE)
   b. Messaging (SMS, MMS and IM)
   c. Rich Communication Suite (RCS-e, and RCS RCS2.0 5.0/5.1)
   d. Multimedia Telephony Services (MMTel)

**Critical Software** started out with software development for critical systems in the aerospace, defence and security sectors. The company then adapted some of these products to other sectors and entered the telecommunications and financial sectors. In 2013 it achieved a turnover of €22 million with an EBITDA representing 7% of turnover. Critical Software's offering includes specific solutions for the telecommunications industry such as revenue assurance, fraud management, performance management, network mediation, network traffic control, mobile applications and circuit design. Critical Software was one of three finalists for the internationally recognized IBM Beacon Awards. The company competed for the award with its front-end service-counter solution installed at Banco de Fomento Angola (BFA). The solution is adapted to the needs of the African market and Critical intends repeating its success with other Angolan financial companies. Critical Software also has the support of IBM to market this solution across the African continent. The product is based on the technologies IBM BPM, IBM FileNet Content Manager, IBM Tivoli, IBM Websphere Application Server and IBM AIX. One of the areas in which this Coimbra-based company is very competitive is critical systems for the space, aeronautical and defence sector (EAS). Together with the Portuguese Navy it developed Oversee, a system to support maritime operations. Several countries have shown interest in implementing the system and Critical is researching the possibilities.

**Watchful Software**, a subsidiary of Critical Software, develops and markets RightsWatch. RightsWatch is a solution that enables automatic classification and encryption of information in order to protect sensitive material in corporate environments. The product was first developed to meet the needs of the Presidency of the Council of Ministers. RightsWatch increases the ability for the user to classify and encrypt information based on the content and its context, including file types, with detailed rules and policies. Another feature is its ability to improve the dynamic classification of the product, allowing information to be protected more easily. The solution is being marketed in several countries and has been well received in America, particularly in the oil sector.

**eProcurement**

One of the areas in which Portugal has top performing companies is in eProcurement solutions. In 2009 a new Public Contracts Code (which requires the Portuguese Public Administration to eProcurement in all purchases over five thousand) came into force in Portugal and several companies presented solutions to address this need. **Vortal** and **Gatewit** stood out from the crowd. The Public
Contracts Code was responsible for introducing major changes in procurement and also the adoption of innovative technological solutions, which encouraged the modernization of administrative processes.

Gatewit products target two areas: electronic procurement (eProcurement) and Source-to-Pay Solutions. The company is listed in the 'Deloitte Technology Fast 500' for 2012 and 2013. In 2012 it received the UK Trade & Investment award and has since been among the Top 100 Projects of the Supply Chain (selected by Supply & Demand Chain publication). Gatewit has a market share of over 60% of the eProcurement transactions made by the Portuguese Public Administration (an estimated market of €8.2 billion). The Gatewit platforms recorded more than €4.2 billion of transactions in the past two years and contributed to savings of about 35% for its users. The company is in Brazil, Spain, the United Kingdom, the United States, Mexico, India and China.

More than 40,000 companies use Vortal's electronic platforms for public and corporate hiring. The Portuguese Public Administration is one of its users. Companies in 39 countries use Vortal's solutions. In 2013 about 17% of the company's business took place in Spain, the Czech Republic and Colombia. Vortal was chosen, for example, by the Republic of Colombia to provide solutions to the public procurers in central and local government. The future looks promising with 600,000 public procedures and more than 20 billion dollars a year in tenders predicted.

ERP

Management software is another area where Portuguese companies are very active — Alidata, ArtSoft, Eticadata and Sendys to name a few. These companies have also adapted their solutions to Portuguese-speaking markets, although they are yet to achieve a prominent role. The two major Portuguese software houses in this area are Primavera BSS and PHC.

Primavera BSS closed 2013 with a turnover of €17.8 million. Of this amount, 41% came from business outside Portugal. Primavera is present in Spain, Angola (leader in the ERP market), Mozambique (leader in the ERP market), Cape Verde (leader in the ERP market), and Sao Tome and Principe. The company has ongoing projects in some African Francophone markets and has plans to start operating in United Arab Emirates later this year. According to Primavera's forecasts, half of its turnover in the next fiscal year will come from activity of outside Portugal.

The second major Portuguese player in the management software market is PHC. The company ended 2013 with a turnover of €8.6 million. It has a presence in Angola, Mozambique and Spain but sales outside Portugal still only represent 5.5% of its total. PHC has developed a cloud application called PHC FX specifically designed for the service industry and is its vehicle for internationalization. This year the company has a strong focus on the English market. If it succeeds, the plan is to expand this particular offer to other markets.

Another provider of ERP solutions is Sistrade, which created MIS | ERP, a solution primarily designed for graphic and packaging industries. Sistrade is present in several countries: Portugal, Germany, Spain, Slovenia, France, Italy, Poland, Mexico, Turkey, Abu Dhabi and United Arab Emirates.

Also worthy of note in this market segment is ROFF. Despite not having its own ERP the Portuguese company develops solutions to integrate with SAP. It is one of the largest European partners of the German multinational that does not belong to the world of the major consultancies. ROFF developed some of its own products using SAP technology — Smartschedule, Smartmunicipal, Smartlegal, Smartbuild, SmartPharma, SmartServices, Smartfood & Beverages — and is present in Europe (Portugal, France, Sweden and Switzerland), Africa (Angola and Morocco), Latin America (Brazil) and
Asia (Macau). The company generated sales of €50 million in 2013 and has 350 active clients. More than half of the business came from projects outside of Portugal.

**Agile Development Solutions**

In the business of agile development solutions there are two companies with their own products: **OutSystems** and **Quidgest**.

OutSystems has hundreds of clients in 24 countries across 22 industries using their platform solution to deliver mission-critical applications in a quick and personalized way. The company benefits from a worldwide network of 57 partner system integrators and has over 36,500 deployments of their platform.

IDG Connect considers OutSystems one of 20 companies to follow in 2014. The company has received several awards including:

- Best Software Development Solution — CODiE Awards
- Cool Tool Award Winner — EdTech Digest's Award
- Enterprise Tools and Productivity Award Winner — Jolt Awards.

The United States Army is one of OutSystems' clients. The company has offices in the United States, South Africa, Brazil, Benelux, the United Kingdom, Dubai, Singapore, Japan and Australia. The financial results of OutSystems are not made public but analysts estimate a turnover of around €30 million in 2013. The majority of revenue comes from the Portuguese market.

Quidgest also has an agile development solution: Genio. It is a tool used to develop and implement a range of solutions tailored to customers' needs. Unlike OutSystems, Quidgest does not have a network of partner system integrators. The company sells directly or through business partners in Germany, China (Macao), East Timor, Mozambique, UK, Angola, Brazil, Poland, Nicaragua and El Salvador. It closed 2013 with a turnover of €3.7 million.

**Mobile**

**Timwe** is the largest Portuguese provider of applications and services. It operates in the areas of mobile marketing, entertainment and mobile payments.

The company has not submitted results for 2013 yet, but in 2012 it had a turnover of €337 million. In the first nine months of 2013 its global sales increased 38% compared to the same period of the previous year.

The company was founded in 2002. It opened its first international office in Colombia and later expanded operations to 26 locations, with more than 300 employees. It is present in more than 75 countries on five continents and its resumé has a long list of international awards and recognitions.

**NDrive** began as a GPS-provider company, selling hardware and software. But the management team realized that the added value of the company lay in its software application and not in the hardware. In 2007 NDrive branched out and invested in the creation of digital maps. Its headquarters are in Porto and it has offices in San Francisco (USA), Sao Paulo (Brazil) and Shenzhen (China).

NDrive sells its solutions to telecom operators and establishes partnerships with GPS OEM and mobile phone manufacturers, such as LG and Samsung. The NDriveLife solution is available in major app stores and at last year's Mobile World Congress in Barcelona the company launched NDriveLife for a
Canadian app store. It has several million active users and it's used in more than 30 countries.

Another company that received great international recognition in the world of mobile applications was CardMobili. This company is working to make wallets virtual (digital wallet), developing applications that turn your mobile phone into a wallet. The CardMobili gained international visibility in 2010 when it won the Vodafone Mobile Clicks competition in Portugal and went on to win the European version of this Startups competition, in Amsterdam. Now the company has offices in several countries, namely Denmark, Egypt and South Africa.

Besides Timwe, NDrive and CardMobili there were other Portuguese companies at this year's Mobile World Congress in Barcelona: Aptoide, BlueTrend Technologies, FineSource, iMobileMagic, Streambolico, Ubiwhere and Open Idea – getting the Portuguese brand recognized in the international market.

Solutions for the Financial Sector

Exictos developed a business model based on software for the financial sector and IBM mainframe environments. The company is aiming to specialize in providing consulting services with application solutions for the financial (banking and insurance), retail and utilities sectors. The company has about 50 customers in seven countries, mostly connected to the financial sector of Portuguese-speaking countries. Exictos has around 300 employees and has offices in Portugal, Angola (control 80% of the Core Banking Systems market), Mozambique and Cape Verde. The financial results for 2013 have not yet been disclosed but in 2012 it had a turnover of €32.6 million.

I2S solutions are designed for the insurance industry. Its customers are life insurance companies, non-life insurance companies, pension funds and insurance intermediaries. Its solutions support almost the entire insurance business in Portugal. I2S has offices in Luanda and Sao Paulo.

Other Software Houses

One of the oldest and most successful Portuguese companies with technological products of its own is Altitude Software. The company develops Altitude uCI (Unified Customer Interaction), an IP based suite that manages all interactions that take place in a call center. The company operates in 17 countries, has 300 000 paid licenses and 1100 active deployments in 80 countries.

Last year Altitude Software established a partnership with Alcatel-Lucent. Under this agreement Alcatel-Lucent's OpenTouch Customer Service Suite (OTCS) is based on Altitude's uCI product. This partnership followed Alcatel-Lucent's sale of Genesys in early 2012. The manufacturer needed to renew its customer service solutions portfolio so it consulted with vendors and a selection of solutions providers around the world, seeking an agreement with an OEM. The process was conducted directly by Alcatel-Lucent Enterprise division from its headquarters in Paris and Altitude emerged as the favourite. Altitude Software has not yet disclosed its financial results for 2013, however, in 2012 turnover was approximately €35 million.

The company Link offers a diverse range of solutions to sectors like public transport ticketing and document management (EDCO Link). It also has a product for process management: EAMS (enterprise architecture management system). Link has a strong connection to INESC and IST and has offices in Angola, Brazil and Spain. It is developing activities and projects in several other locations; primarily Belgium, Cape Verde, Canada, France, Ireland, Israel, Luxembourg, Morocco, Mozambique, Malta, Sao Tome and Principe and Switzerland.
Link boasts some large companies as their customers such as Brazilian telecom operators Vivo, Oi and the bank Bradesco; and the Mozambican Cahora Bassa Dam. It ended 2013 with a turnover of €27.43 million.

**SISCOG** - Cognitive Systems develops applications for railway and metropolitan companies. The company has three products — Ontime (hours), Fleet (fleet) and Crews (staff)— used daily to plan the work of tens of thousands employees in the transport sector. Among its customers are companies like Ferrocarrils de la Generalitat de Catalunya (Spain), railways in Holland, Finland, Denmark and Norway and the subways in Lisbon and London. In 2013 it had a turnover of around €7 million.

**Alert** – company specialized in development, distribution and installation of software for hospitals and clinics in a paperless environment.

**IT Service Companies with Products of Their Own**

**Novabase, Reditus** and **Glintt** are the three major service providers in Portugal. They provide integration services, products on demand and resource outsourcing for national telecom operators.

**Novabase** closed 2013 with a turnover of €216.8 million, an EBITDA of €14.9 million and a net profit of €7.5 million. Last year, 33.6% of Novabase’s business was generated outside Portugal.

Novabase’s offering in the telecommunications sector spans the entire software range of a telecom operator:

- business and operational processes support (Customer Relationship Management and Unified Front End)
- channels support [Self-Customer Care and PartnerPortals, and Sales Performance Management (Commissions)].

The company also works in specialized areas like corporate sales support (Sales Force Automation), customer loyalty systems, point-of-sale (POS) and knowledge management.

The company has a comprehensive view of business processes, ensuring their integration and consistency through savvy use of EAI (Enterprise application integration) and Order Management platforms. It also has extensive experience in the design and construction of reference architectures for telecom operators and relies on key technological partners such as Oracle, Tibco, Callidus and eGain. Novabase is present in various parts of the globe including Europe, Africa and Middle East

**Reditus** presents its annual results for 2013 in April. The company has offices in Luanda, Sao Paulo, Paris, Malabo, Casablanca, Maputo, Stockholm and Macau and has developed projects in more than 60 countries.

Reditus provides telecom operators strategic consulting and processing. Its services include marketing analytics (aimed at finding hidden value through, for example, elasticity campaigns), customer value management (retention models on targeted customers), and social network analysis and pricing.

The company carries out strategy and business efficiency actions, aiming to optimize and streamline the activity of commercial channels among customer segments, for example, segmentation and channel mixing; diagnosis and commercial promotion; and optimization of business processes.

Reditus also conducts operational efficiency initiatives with the aim of reducing the costs of
operational processes (Front/Back office) and increasing their quality. It develops end-to-end optimization processes; organizational and incentive models; management and quality control models; and continuous improvement models.

Reditus's main area of activity is in the health and mobile payments sector, but it does have products specifically for telecom operators such as automatic payment solutions e.g., Apollo MyRecharge.

**Glintt** works in the business of automatic payment terminals, PIN pads, mobile payment solutions, solutions of non-serviced payments, queue management and dispensers, corporate TV, kiosks and ticketing services. It also provides custom made solutions.

### The Hardware and Other Sectors

One of the few Portuguese manufacturers of hardware is **JP Inspiring Knowledge**, formerly known as JP Sá Couto. This distributor of IT solutions has its own product line: Tsunami. It was one of the founders of the Magalhães project, a highly successful initiative that provided subsidized laptops to school children around the country. The company took advantage of this knowledge and the volume of machines they were selling to become an important partner with Intel. After the Magalhães project the company began to internationalize this model, which includes laptops and tablets for schools and a supplementary service that allows you to manage all the orders, deliveries and maintenance of machinery.

The company now packages its devices with content from the school curriculum and provides training to the teachers on how to use it. JP - Inspiring Knowledge offers turnkey solutions, which it provides either as a full package or separately (services or machines). The company has education-related business in more than 50 countries. The financial results for 2013 are not yet available, but in 2012 about 70% of its total turnover came from its educational solutions, which accounted for €235 million.

**ISA** is a company specializing in two distinct business areas: ISA Energy and ISA **Oil & Gas**. It provides and implements solutions and is associated with efficiency and process improvement in the areas of energy, environment, gas and other fuels services. Its solutions are internationally awarded and are now present in more than 20 countries on five continents. Software to manage data and information, hardware and a middleware solution for **telemetry** are part of its offering.

**Efacec** is a company with a large portfolio of business activities such as energy, engineering and services solutions as well as transport and logistics. Efacec's involvement in important space projects is worthy of note. The new European space laboratory Columbus includes technology totally designed by Efacec group. Called EuTEMP, this space equipment was wholly designed and produced by Efacec, certifed by NASA and the European Space Agency (ESA), and was part of the mission that took off from the spaceship `Atlantis' in Cape Canaveral, Florida (U.S.A.) for the International Space Station.

### Defence

**Tekever** operates in the areas of aeronautics, space, defence and security, providing unmanned aerial systems, space systems and C4I systems. It has offices in Europe, Asia, and North and South America. The company closed a major contract last year with the Colombian Army. A few weeks ago it was selected to provide the Autonomous Systems Research Underpinning (ASUR) program for the British Ministry of Defence.

**EID** is one of the leading high-tech industries in Portugal, with a proven record and solid know-how in
the fields of electronics, communications and software engineering. We design, manufacture and
supply advanced, high performance equipment and systems, mainly for the worldwide defence
community. EID is active in multiple countries worldwide, with customers in Europe, Africa, South
America, Middle East and Asia Pacific.

**EdiSoft** is a specialized company that offers technologically advanced software solutions and highly
qualified IT consulting services to the design, development and integration of critical real-time
command, control, communications, computer and intelligence (C4I) systems, being thus a reference
in the national defence industry nucleus.

**Gaming and Entertainment**

**YDreams** is a company focused on software, mechanical and electrical engineering, graphic and
communication design, industrial and interaction design, Augmented Reality, human-computer
interaction and robotics.

Over the past decade the company has been developing full-scale interactive environments, with a
special focus on the field of Augmented Reality and Natural User Interface (NUI). The company has
developed over 600 projects for global clients such as Adidas, Vodafone, and Coca-Cola, and
established research and cooperation partnerships with Microsoft, Siemens, Sonae Indústria, and
Metoxid (CUF Group), amongst others.

**bsure** and **Seed Studios** are other examples focused in the gaming sector.

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