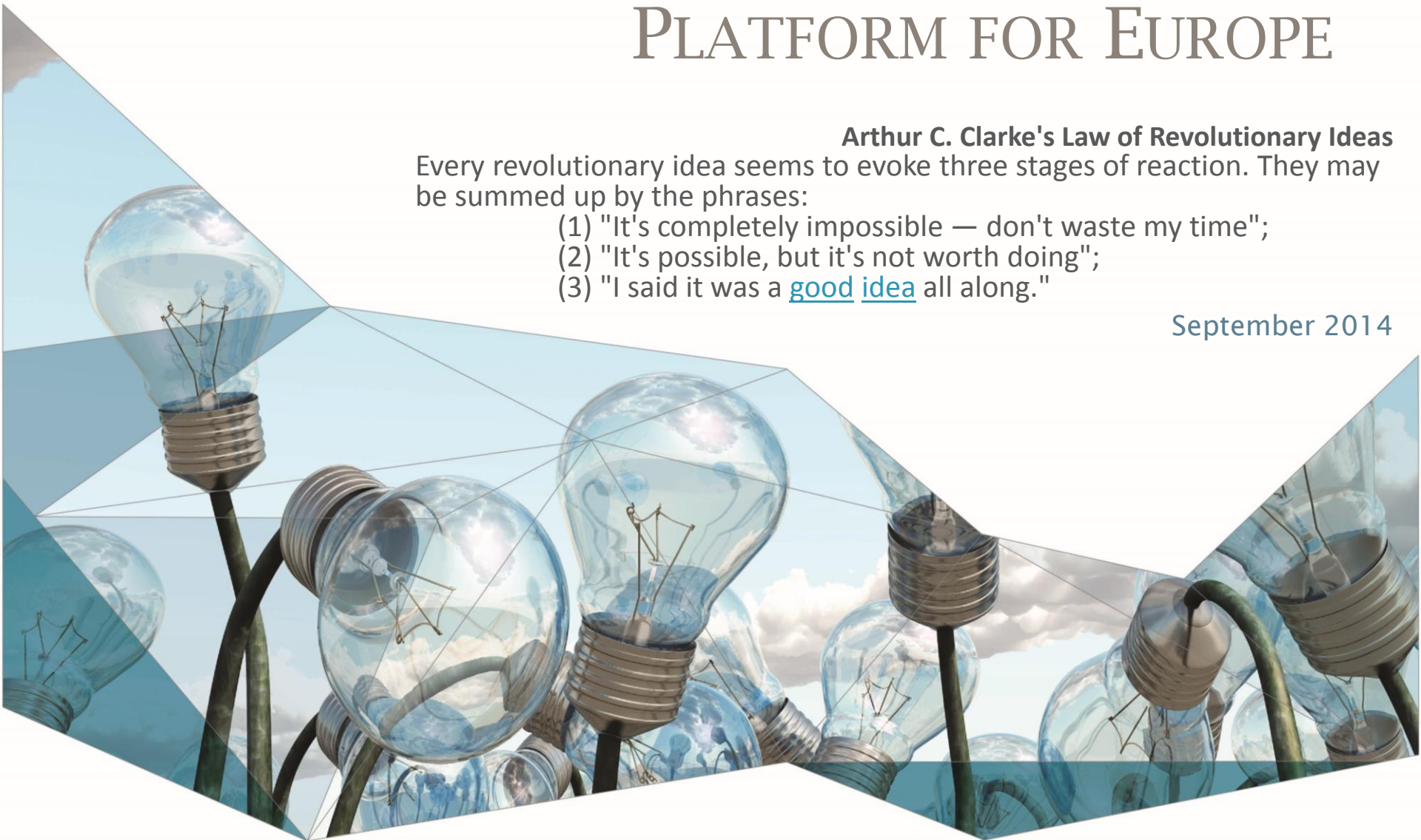# PORTUGAL AS AN ICT PLATFORM FOR EUROPE

Arthur C. Clarke's Law of Revolutionary Ideas
Every revolutionary idea seems to evoke three stages of reaction. They may be summed up by the phrases:
(1) "It's completely impossible — don't waste my time";
(2) "It's possible, but it's not worth doing";
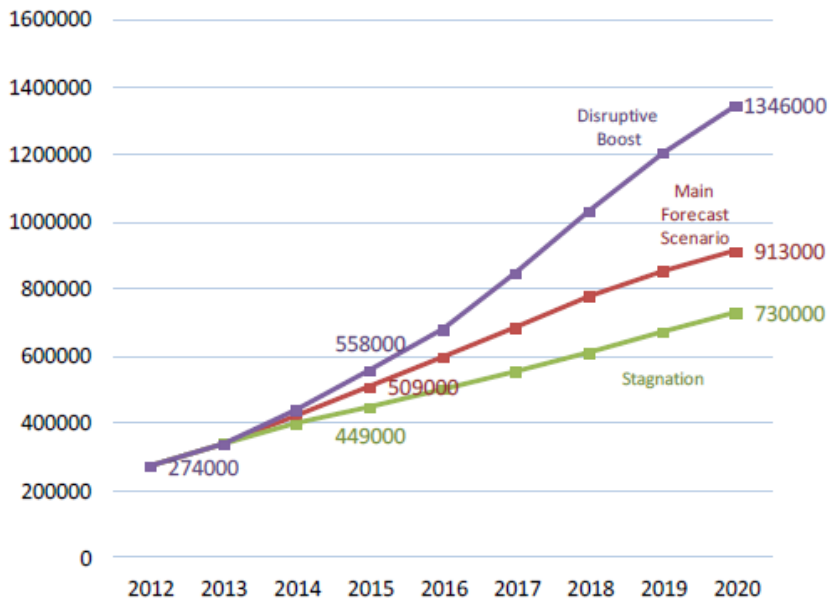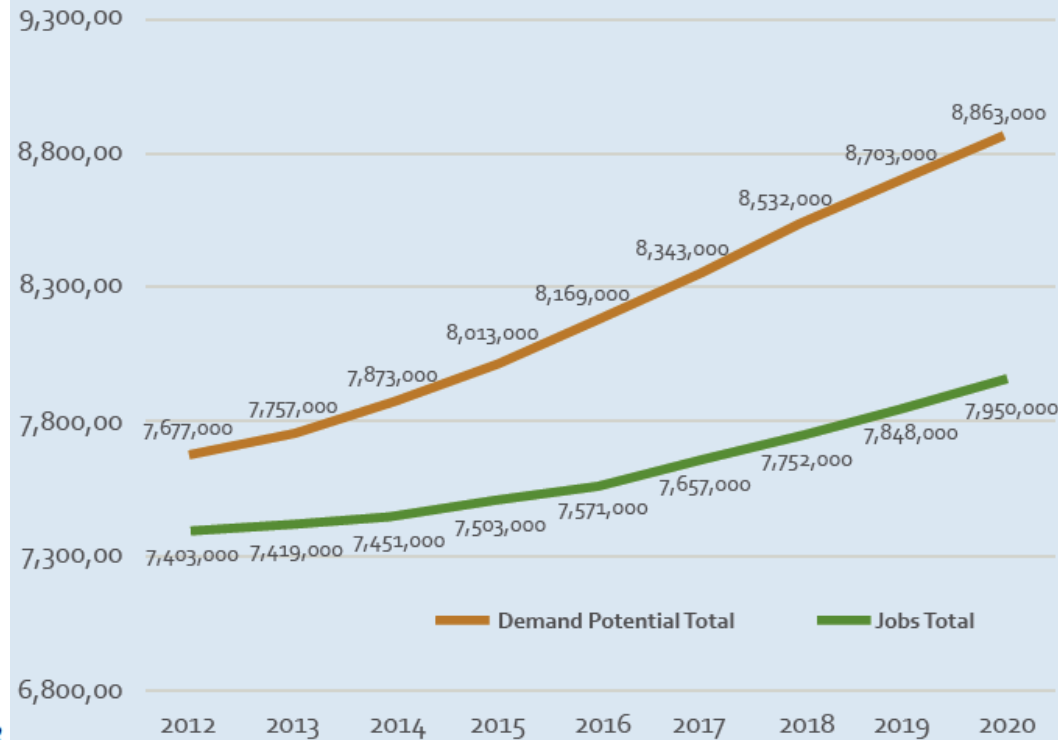(3) "I said it was a good idea all along."

September 2014

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aLTRaN

Portugal as an ICT Nearshore Platform
The European Market Opportunity

Potential vacancies in Europe (EU27) by scenario 2012-2020

Disruptive Boost — 1346000
Main Forecast Scenario — 913000
Stagnation — 730000

274000, 558000, 509000, 449000

Source: empirica 2013

EU - Main Forecast Scenario

Demand Potential Total: 7,677,000 · 7,757,000 · 7,873,000 · 8,013,000 · 8,169,000 · 8,343,000 · 8,532,000 · 8,703,000 · 8,863,000

Jobs Total: 7,403,000 · 7,419,000 · 7,451,000 · 7,503,000 · 7,571,000 · 7,657,000 · 7,752,000 · 7,848,000 · 7,950,000

- Main forecast scenario assumes modest economic growth (European GDP increasing from 1.0 % annual growth in 2012-2015, then 1.7 % a year in 2015-2020) and moderate IT investments (2.2 % p.a. growth until 2015, 3.0 % in the rest of the decade).
- IT investments will be largely driven by rapid diffusion of mobile devices, apps, cloud services and other new delivery models. Significant growth is foreseen for big data applications and services through to 2020.
- Main Forecast scenario imply modest job growth of 100,000 until 2015, with a structural shortage of 509,000 caused by lack of available talent. It also suggests that 509,000 jobs could be created if the skills were available.
- Bottlenecks are largest in the UK, Germany, and Italy - which together would account 60% of all vacancies in Europe.

Portugal as an ICT Nearshore Platform
The European Market Opportunity

Expected ICT workforce profile changes in Europe (EU27) from 2011 - 2020 (main forecast scenario)
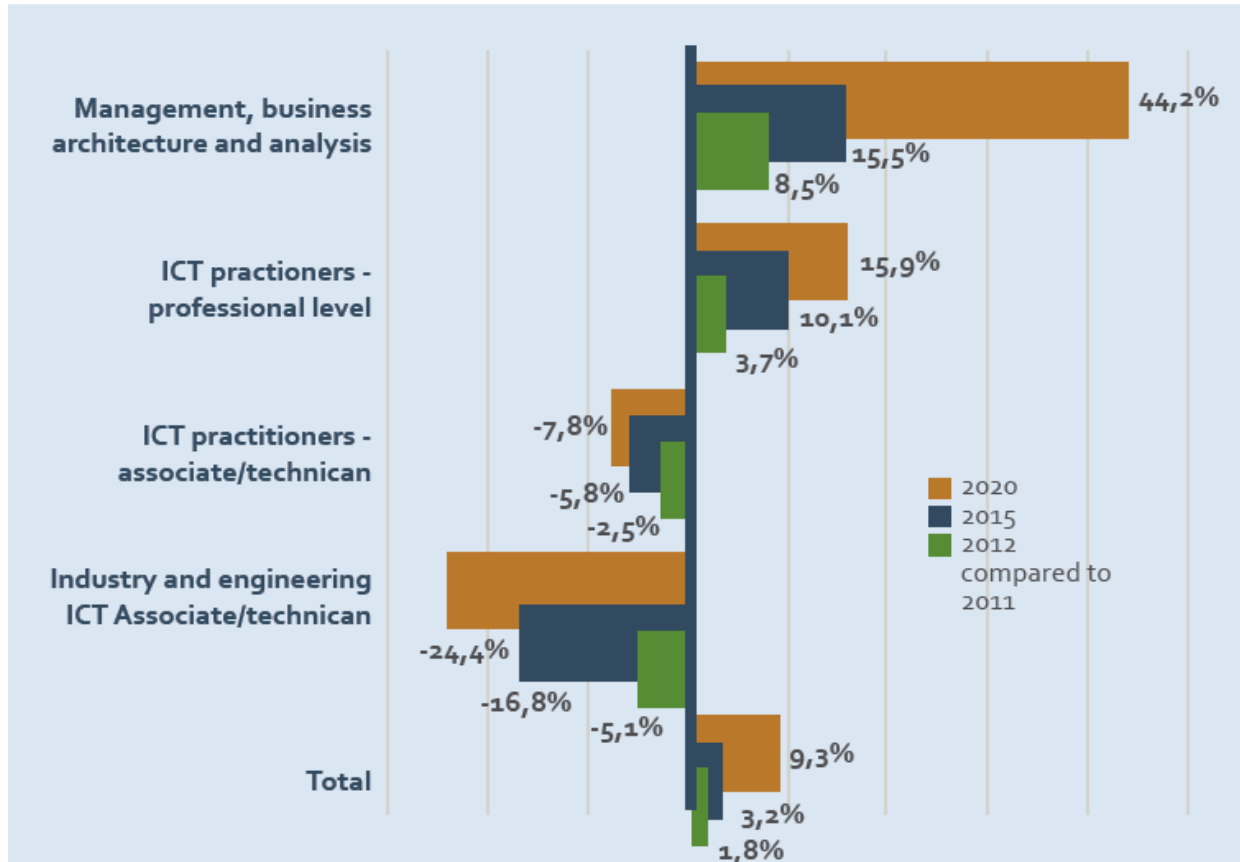
The trend towards higher-level skills is expected to continue, although at a less dramatic rate than in the changes seen in 2011/2012. The main forecast scenario suggests that management, architecture and analysis jobs are expected to grow by 44% compared to 2011, and professional level jobs (ISCO level 2) by 16%, while technicians' jobs will continue to disappear as a result of automation, off-shoring, and productivity gains.
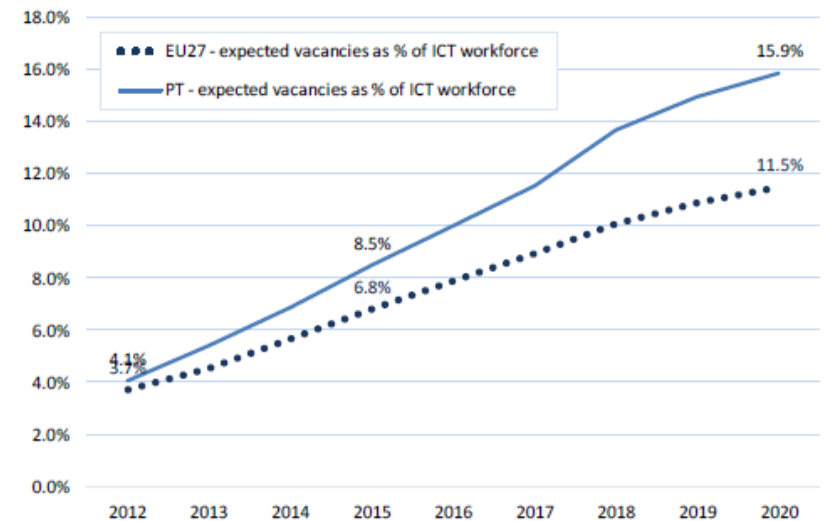
Portugal as an ICT Nearshore Platform
GAP between local demand and availability

ICT workforce: Demand and Jobs in Portugal 2012-2020 (Main Forecast Scenario)
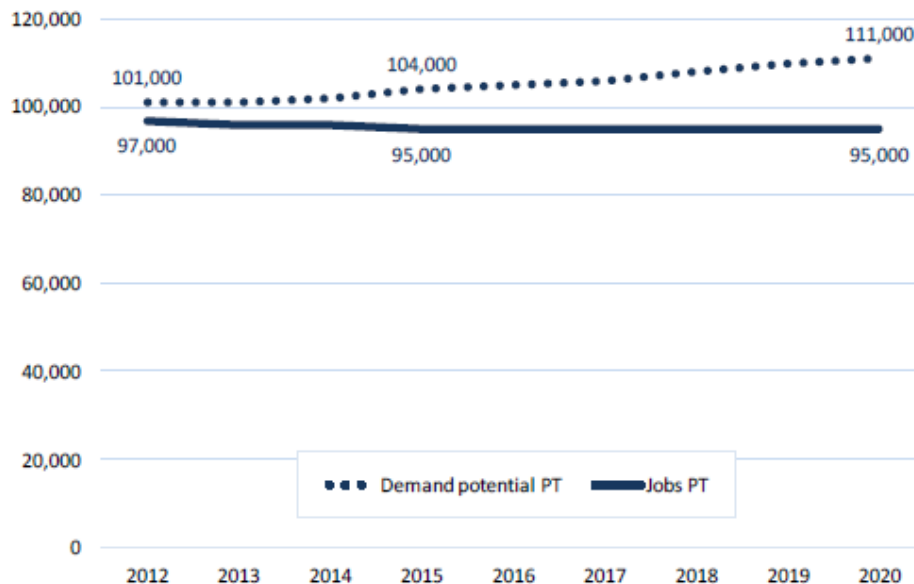
Source: empirica 2013

Potential vacancies as percent of ICT workforce Portugal 2012-2020 (Main Forecast Scenario)
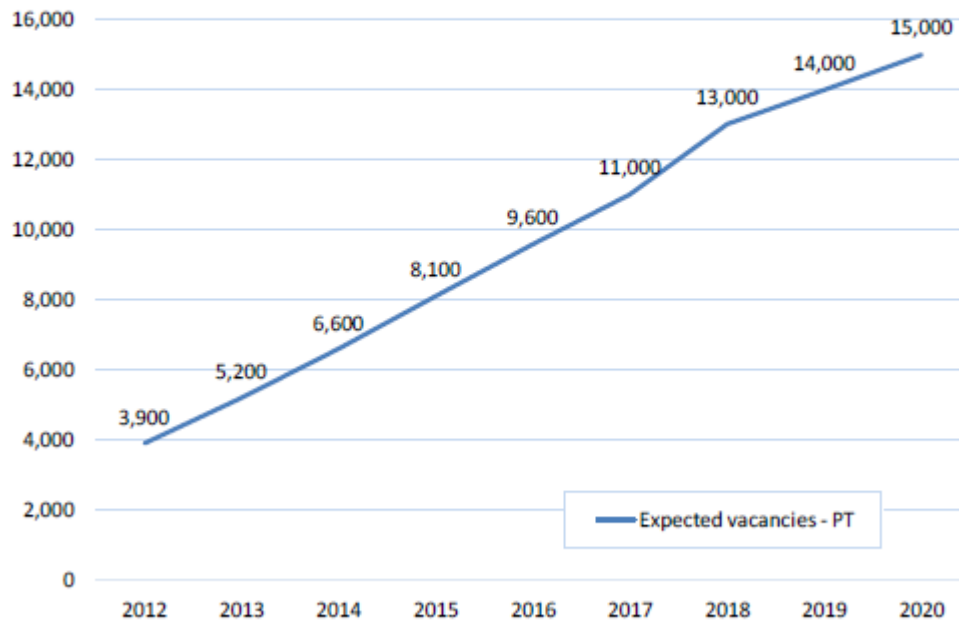
Source: empirica 2013

Considering the Digital Agenda for Portugal and the overall related ICT job expected demand we are already late, which represents a risk for overall internal development and a weak point to address if Portugal what's to catch the European Opportunity

Portugal as an ICT Nearshore Platform
GAP between local demand and availability

e-Skills shortage: Potential vacancies in Portugal 2012-2020 (Main Forecast Scenario)

Source: empirica 2013

Closing the e-Skills gap

Trends on the supply side are indicative of the stronger efforts taken to make a career in ICT more attractive to students. Statistics indicate an increase in number of graduates in ICT programs from 2,543 in 1997/98 to 4,088 in 2004/05, most of who graduated from public institutions. However, the number of students enrolled for the first time in ICT programs has decreased from 8,014 in 2002/2003 to 6382 in 2005/2006. The number of study places has also slightly decreased between 2002/2003 and 2005/2006. In 2005/2006 only 70% of the study places in ICT programs were taken, showing a difficulty of these programs to attract students.

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Portugal as an ICT Nearshore Platform
European Commission e-Skills policies

Grand Coalition for Digital Jobs

- **ICT Training**
- **Mobility**
- **Certification**
- **Raising awareness**
- **New approaches to learning and education**

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Portugal as an ICT Nearshore Platform
Altran Portugal Case
Why Portugal?

Crescimento Efectivos YTD 2014:

- +27% Mercado Nacional
- +45% Mercado Europeu (Nearshore)

- Cost minimization
- Improved responsiveness and *time-to-market*
- Increased flexibility to meet demand fluctuations
- Quality of Overall Infrastructure
- Multilingual capabilities
- Geographic Proximity
- Excellent profile of Engineers

Competitive Edge (%)

- France; 51%
- Italy; 33%
- Spain; 42%
- Portugal; 0%
- Germany; 59%
- UK; 42%
- Belux; 58%
- Netherlands; 53%
- Scandinavia; 63%
- Switzerland; 61%
- USA; 58%
- China; -3%
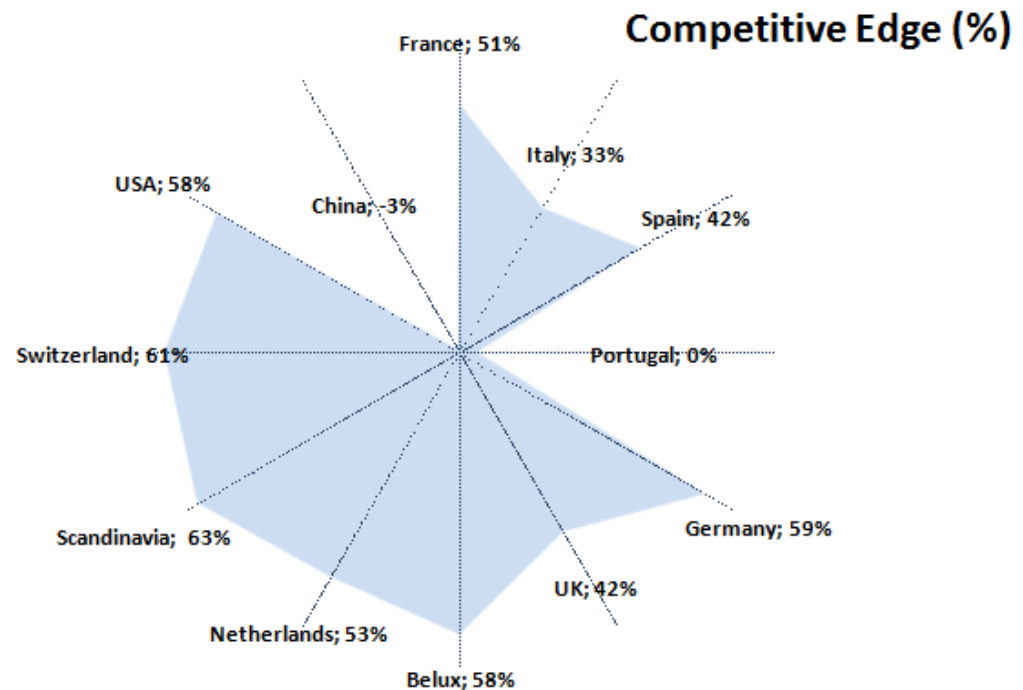
ALTRAN

Portugal as an ICT Nearshore Platform
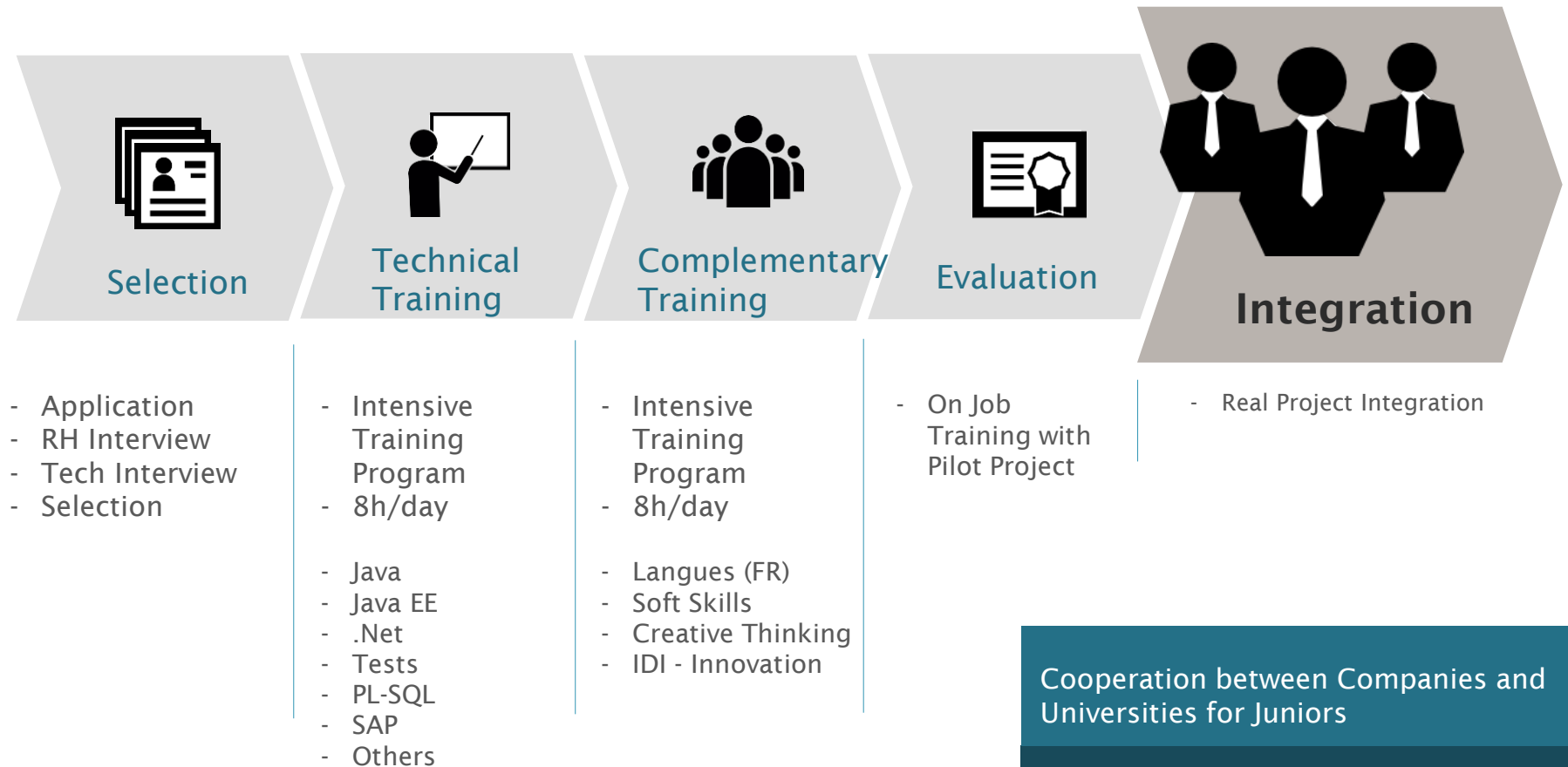
Altran Portugal Case

Example of Typical Industrialized Software Development Organization
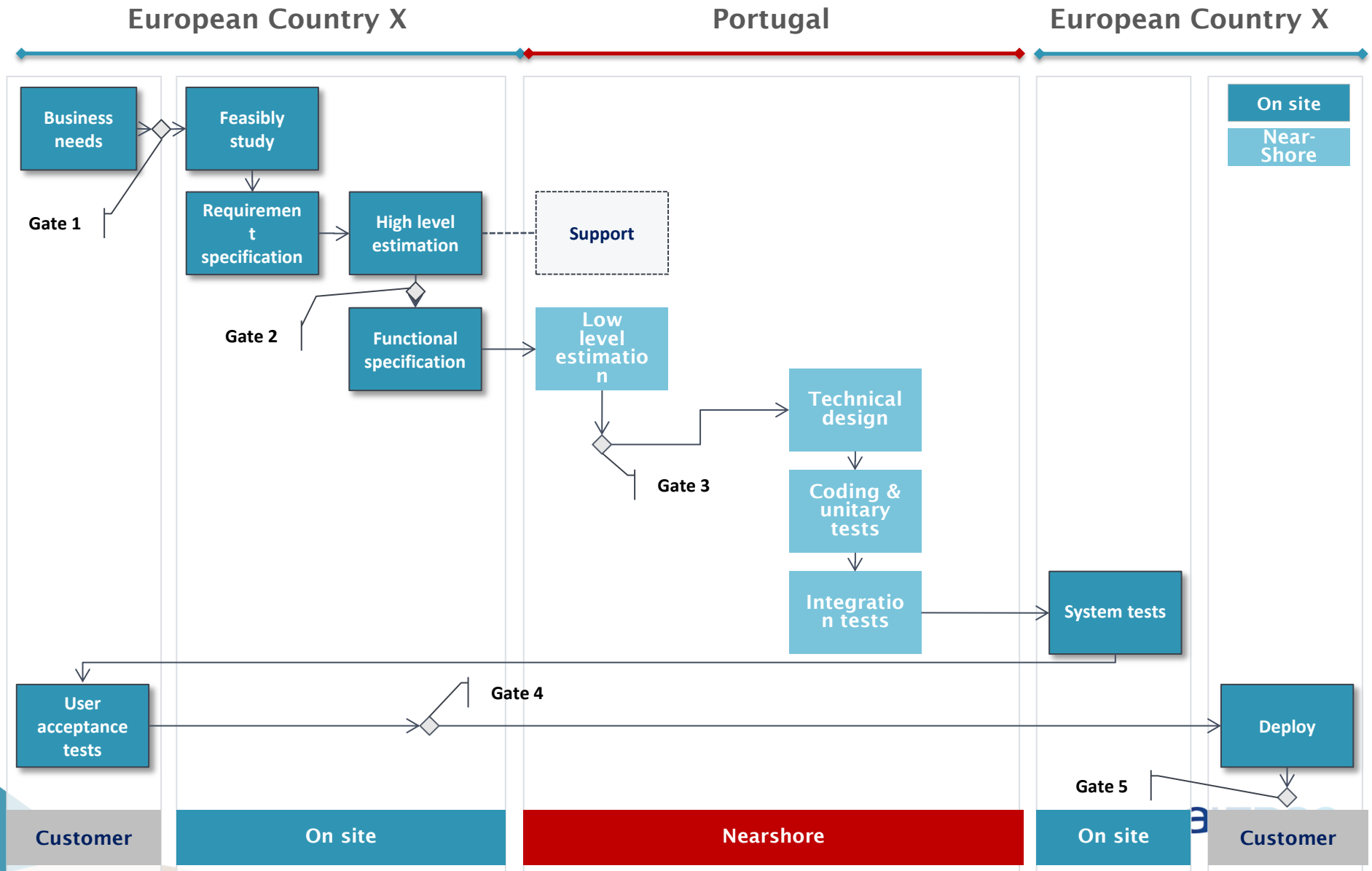
Portugal as an ICT Nearshore Platform
Altran Portugal Case
Opportunity to convert unemployed young engineers

Selection → Technical Training → Complementary Training → Evaluation → Integration

Selection
- Application
- RH Interview
- Tech Interview
- Selection

Technical Training
- Intensive Training Program
- 8h/day

- Java
- Java EE
- .Net
- Tests
- PL-SQL
- SAP
- Others

Complementary Training
- Intensive Training Program
- 8h/day

- Langues (FR)
- Soft Skills
- Creative Thinking
- IDI - Innovation

Evaluation
- On Job Training with Pilot Project

Integration
- Real Project Integration

Industrialized Academies are critical to meet GAP between University training and professional World.
They also contribute to convert unemployed people with certified training.
They are necessary also to guarantee right level of skills available in the Portuguese Market to meet demand

Cooperation between Companies and Universities for Juniors

Cooperation with IEFP for unemployed people

Develop Critical Mass of necessary Technical Profiles

Portugal as an ICT Nearshore Platform
Altran Portugal Case
Example of Training Program dedicated to JAVA Profiles

This training program is an example of cooperation between host company, university and IEFP to develop / adapt JAVA skills to Project specific need

Training Plan (Sample)	Partners	Duration
Phase 0 – Java intensive	Univ/IEFP	10
Phase I – Personal Marketing	IEFP	6
Phase II – Languages French (Level 1)	IEFP	6
Phase III – Delivery Model process	Company	5
Phase IV – Software Engineering	Univ.	5
Phase V – Project Pilot	Company	17
Phase VI – Evaluation	Company	1
	Total Duration	**50** days

Main Objectives

- Prepare Young or Unemployed Engineers;

- Address specific Project Needs.

- Ensure necessary profiles availability to secure project ramp up / demand

Portugal as an ICT Nearshore Platform
Multinationals can act as an Hub for knowledge exchange
Altran Foundation Initiative 2012: Laureate WI-GO

Wi-GO, is a project aiming to integrate people with reduced mobility in today's society. Won the 2012 Altran Foundation for Innovation Award in Portugal and the **2012 INTERNATIONAL AWARD**, both Jury's choice and public's vote.

Wi-GO is an intelligent shopping cart designed to follow and assist people with a disability or those with reduced mobility – like the elderly or pregnant women with strollers – in an independent and safe manner.

Solutions already exist to help people with reduced mobility such as "scooters" that are available in supermarkets. However, it implies to leave the wheelchair and get on the scooter, which is not convenient. Unlike other existing tracking devices, no special piece of clothing or body sensors are requested to use wi-GO, thanks to its movement sensors and the Microsoft's Kinect sensor.

In the future, wi-GO shopping cart will be outfitted with an electronic tablet and software that can be customized to the client's needs such as providing a shopping list, guiding the user on the best way to reach products, advertising specific promotions…

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Multinationals can act as an Hub for knowledge exchange
Altran Foundation Initiative 2013: Laureate OMNIFLOW

How could it be possible to better enjoy wind power in urban spheres? Could it be possible to mix multiples power energies?

Omniflow, SA is a start-up funded by Portugal Ventures aimed at international renewable energy market through the development of the Omniflow device which generates energy using wind, solar and co-generation processes.

The technology of Omniflow uses an inverted wing shaped airfoil to direct the wind from any direction and promote a venturi effect that accelerates the wind in the direction of the central vertical axis turbine.

The air passing above the turbine also contributes for power generation as it combines with the stream coming from the turbine in a cyclonic updraft vortex flow.

The Omniflow device uses aerospace technology to achieve its high performance directional flow. This patented wind turbine operates just like an airplane wing when it opens the flaps to land but with a radial wing instead of linear to obtain its revolutionary omnidirectionality.

The surface of the wing is covered by PV cells that maximizes energy production.

The PV panels are divided in 3 zones and use independent micro-inverters with individual maximum power point tracking to maximize energy production and prevent power drop by shades.

This project would enable to develop urban spheres. In fact, it has great advantages of being smaller than usual windmill and above all, it is not noisy.

It has already been commercialized and it is already a success for its founder.