

## Workplace of the Future: A View from European Youth







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## FOREWORD BY MR. N CHANDRASEKARAN, CEO & MD, TATA CONSULTANCY SERVICES

I am very pleased to formally release this report that seeks to garner the views of young people in Europe towards the workplace of the future and the use of technology.

Business never stands still, but today technology is accelerating the pace of change as never before. We are reimagining how business is being done across every sector, leading to a transformation of enterprises in Europe – which is further reshaping the nature of work itself.

Young people embarking on careers today will increasingly find themselves working in "Digital Enterprises" that are rapidly evolving. At TCS, we have identified five major forces of technology – Cloud Computing, Mobility, Big Data, Social Media and Artificial Intelligence combined with Robotics – all of which are coalescing to bringing in a more digitalised economy. As one of the world's leading technology companies, we have over 50,000 experts working with 300+ companies in Europe and helping them make this digital transformation.

Young people in the workforce are both the inheritors and drivers of this new reality. 70% of our own 290,000 employees globally belong to Generation Y, being under 30 years of age. As digital natives, they already have the agility and technical aptitude for today's workplace. They have grown up as enthusiastic users of technology, and their influence has been a key factor in our own adoption of social networking as an internal communication tool.

And yet, we must also acknowledge that for many of this generation, careers in the digital age present real challenges. With increasing digitisation, the need for digital skills will increasingly become a necessity.

Young people entering a digitalised workplace must do so either with a higher level of skill and training provided by education or must find employers willing to invest in this provision. One area where this need is perhaps most urgent, given the increasing reliance on technology, is increasing capacity and capabilities in crucial disciplines such as science, technology, engineering and mathematics (STEM). In Europe these are all areas where it is feared that a skills gap is worsening and could extend up to 900,000 positions in a couple of years.

To better understand youth attitudes towards technology, TCS and ThinkYoung - a pan-European think tank representing European youth - have undertaken this research. This research explores how European youth view their future in a digitised world and workplace. The survey covers respondents across all 28 EU countries and looks at how crucial issues such as the Digital Enterprise, the future workplace, career progression, and digital skills are perceived.

The 90 million Europeans who comprise Generation Y will enable the next generation of digital enterprises, but we must first enable them to do so.

To understand and meet their needs, we must listen. Their voices are important and must be heard.

I am grateful to all young people who have lent their voices to this study and to the various Commissioners, Members of the European Parliament, business and academia leaders who have heard them and shared back their points of view.

Let us keep the conversation going as we build our future together.



## FOREWORD BY NEELIE KROES, VICE-PRESIDENT OF THE EUROPEAN COMMISSION

The world is becoming digitised at a breath-taking rate, impacting every aspect of our lives from the political to the personal, to the ways we live and work.

All generations of Europeans will feel the force of digitisation but it is the younger generations whose lives will shape and be shaped by these changes to the greatest extent. This is why this timely and insightful research from TCS and ThinkYoung is to be welcomed. In order to better meet the needs of coming generations it is incumbent on us as employers, educators and regulators to understand their expectations of what is here termed the "Digital Enterprise."

I have argued that Europe cannot afford to leave any of its citizens out of the opportunity created by the connected digital age. The same is true of European businesses. Whether multinationals or start-ups, today all businesses need the digital skills and infrastructure in order to compete, and the "Digital Enterprise" is a term that is surely coming to define all organisations. This is the most connected generation there has been, and I strongly believe in their entrepreneurial drive and ability to succeed. Yet while this generation of digital natives has a latent ability, they also face significant challenges as we can witness in the troubling levels of youth unemployment across the EU. Again, this study focuses our minds on the risks by flagging young people's concerns that education has not prepared them for the world of work, an area that rightly demands urgent attention.

We will all benefit from becoming a more connected, competitive, innovative, and digitised Europe. I believe our young people are the key to this, and we must all work to create the incentives and opportunities for them to succeed. Listening to their voices is fundamental to this project.



# FOREWORD BY HENRI MALOSSE, PRESIDENT OF THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE

Listening to young people first is something we should all do more of. This study is therefore to be applauded for taking the voice of Europe's youth as its starting point. Digitisation is radically transforming our lives both at work and at home and we must take time to understand the challenges and opportunities facing the generations that will inherit this world.

There is great reason for optimism in these findings. They speak of a generation that is calling for greater transparency, of a freedom of communication and information both within companies and between countries. Young people embrace a European future characterised by opportunity and enabled

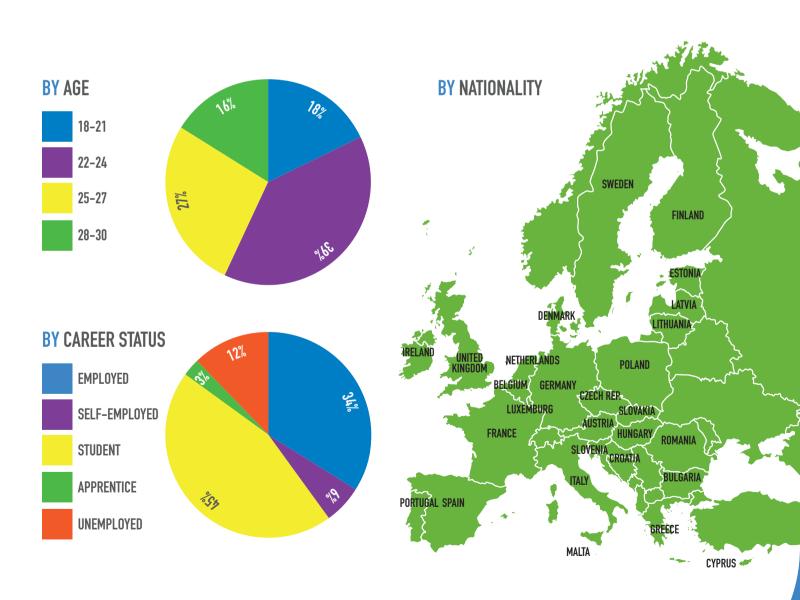
by technology, with fewer geographical boundaries and a freedom of movement that will allow them to seize these opportunities. At the same time, these findings also warn against complacency, particularly with regard to providing young people with the requisite skills to thrive and compete in the digital age. Today with millions of young people out of work in Europe, it is incumbent on legislators, educators, and employers to work to invest in removing barriers to young people's entrepreneurial drive. We must provide the training needed to succeed against ever greater global competition and in a world where increasing specialisation and technical ability is demanded in the workplace.

## **ABOUT THE STUDY**

Tata Consultancy Services (TCS) is working with young people across Europe to prepare them for successful careers in the digital age. TCS, in collaboration with ThinkYoung, a think tank focused on youth, conducted a study of over 500 young Europeans between the ages of 18 and 30. The study covered all 28 EU countries with the aim was to understand their thoughts on the future of the workplace.

A key objective of this research is to start a dialogue between young people, employers and legislators. In response to the survey findings and interviews, TCS has sought perspectives from some of Europe's leading politicians, business leaders and academics to add their voices to the debate.

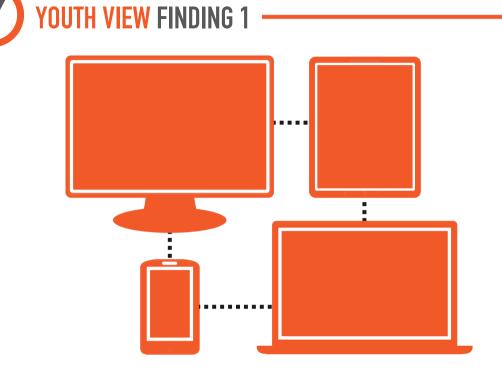
We are indebted to young people from across Europe and to leaders who have taken time to participate in this research and offer their insights and perspectives.





## THE DIGITAL ENTERPRISE CHARACTERISTICS

## YOUTH VIEW



**European youth believe that a Digital Enterprise is characterised by:** 

# INCREASED ONLINE COMMUNICATION, FLEXIBLE WORKSPACE AND LESS GEOGRAPHIC BOUNDARIES



## DIGITAL MARKETER AGE 25, BULGARIA

"Online enterprises are very interesting in my field, providing endless opportunities. They represent creativity, an innovative approach, following every second and minute of a new trend, experimentation, and online communication via as many channels as possible."

### MANAGEMENT PROFESSIONAL AGE 22, GERMANY

THE DIGITAL ENTERPRISE CHARACTERISTICS

"The Digital Enterprise might enhance creativity due to the flexible work space as well as reduce the environmental impact of its operations.

However it also decreases the importance of personal contact and availability at the workplace."

"Digital Enterprises are inclusive of things such as flexibility and fluidity in terms of the workplace, the idea that people can interact with one another without any social boundaries."

RECRUITMENT PROFESSIONAL AGE 29, FRANCE STUDENT AGE 20, UK

"When it comes to a Digital Enterprise I think the thing that characterises it the most is the fact that there are no physical spaces, people can work from anywhere across the globe, communicating through online communication channels and getting work done across borders and boundaries."

"Digital Enterprises will become more and more popular, with an increase in interactive technology closing the physical distances between people and networks, it will be made up of compact technologies that will not be on display."

WORKER IN HOSPITALITY SECTOR LATVIA. AGE 20

## THE DIGITAL ENTERPRISE CHARACTERISTICS



## AMALIA SARTORI, MEMBER OF EUROPEAN PARLIAMENT

IFADER VIEW

The study shows that young Europeans primarily characterise a Digital Enterprise as increased online communication, flexible workspace and fewer geographic boundaries. With the introduction of social media and the accessibility of online communication tools like VoIP, the world has never been more connected. Young Europeans these days see the values that high connectivity and communication have, and understand the necessity for them to be present in a Digital Enterprise.

Today, there is no doubt that digitisation is an essential asset to all, redesigning the future of individuals, societies and enterprises. Incredibly innovative businesses, particularly in communications and computing, have led to the emergence of the digital era, yet it is just as impressive how the public has embraced the idea of an interconnected society and is driving digitisation forward even faster than these businesses could have foreseen. As digitisation is rooted in transnationalism, a common decision making process above national level is necessary to carry forward this

momentum and vibrancy. The role of a united Europe is that of providing a harmonised legislative framework that will create a competitive environment that will stimulate innovation.

Examples include the European Parliament resolution of September 2013 on the Digital Agenda, which highlighted the need for broadband access and uptake. E-commerce, digital inclusion, cross-border public services and research and innovation targets are an imperative priority in order for the EU to reap the full benefits of the digital society. Other important initiatives, driven by the Committee on Industry, Research and Energy (ITRE), are driving forward high levels of penetration of very high speed broadband connections, and without greater levels of investment in future networks, the EU will become less competitive globally. For this reason I support the creation of a single telecom market based on a transparent legal framework which will foster forward investment in fixed and mobile networks.

## THE DIGITAL ENTERPRISE CHARACTERISTICS



SIR THOMAS HARRIS, CHAIRMAN OF THE EUROPEAN SERVICES FORUM (ESF)

LEADER VIEW

There is a certain level of idealism in the belief that geographic boundaries will erode with the Digital Enterprise. This is a great ambition but does not necessarily reflect the direction of travel that can be seen across many industries today. The belief in such a level of freedom – that work can be done anywhere – is similar to the passion of the early pioneers of the Internet, who would talk of what could be achieved through digitisation and technology without considering the practical barriers. However, today we are seeing similar levels of passionate commitment towards increasing privacy and to keeping data within borders.

A key example is cross border data processing in financial services. Here there are a large number of regulators that insist that data is processed on servers held within their own jurisdiction, which means you can't necessarily use a global hub to deliver services. In addition to existing restrictions today, there is increasing judicial and regulatory intervention in the

operation of areas such as Cloud Computing. In theory this is without boundaries but in practice, laws in certain countries stand in the way of what can be done on the Cloud.

This situation seems to be getting more, not less, challenging. China has always blocked data flows across its borders but the current proposals from the European Commission on data protection would make it significantly more difficult to undertake cross border data processing.

Furthermore, since well-publicised stories about state surveillance, this momentum in the direction of greater privacy controls is building. Therefore geographic boundaries are likely to increase.

It is still far from a borderless world when it comes to applying it in business.

# YOUNG EUROPEANS SEE THE VALUES THAT HIGH CONNECTIVITY AND COMMUNICATION HAVE, AND UNDERSTAND THE NECESSITY FOR THEM TO BE PRESENT IN A DIGITAL ENTERPRISE.

**Amalia Sartori, Member of European Parliament** 

TODAY WE ARE SEEING SIMILAR LEVELS OF PASSIONATE COMMITMENT TOWARDS INCREASING PRIVACY AND KEEPING DATA WITHIN BORDERS.

Sir Thomas Harris, Chairman of the European Services Forum (ESF)



## THE DIGITAL ENTERPRISE TOP 4 ELEMENTS



The TOP 4
elements that most
appeal to young
Europeans in
a Digital Enterprise:



- ✓ ENVIRONMENTALLY SUSTAINABLE TECHNOLOGIES (e.g. advanced recycling abilities)
- **✓ MOBILE TECHNOLOGIES**
- **✓ INTERNAL COMMUNICATION**





## THE DIGITAL ENTERPRISE TOP 4 ELEMENTS



TOURISM AGE 25, ESTONIA

"Being connected at all times appeals to me, I like to know that I have the opportunity to communicate quickly with any colleague across the world and share within a pool of ideas."

"Digital Enterprises are desirable, not only do you experience other cultures, but also different ways of working, making you better connected to workers of the world."

STUDENT AGE 21, GERMANY

"Having user-friendly systems is important due to the time constraints of employees these days. They don't want to waste a lot of time learning how to operate complex systems."

STUDENT AGE 19, SPAIN complicated, I lose focus:

STUDENT
23, ITALY

ACTIVIST AGE 27, IRELAND

"The workplace of the future should be paperless and environmentally friendly. Having flexible hours is important as well."

"I'm not very technically gifted whenit comes to technology, if I was to work for a Digital Enterprise I would definitely need software and systems that were simply to learn and use, if it takes too much time or is overly-complicated, I lose focus."

## THE DIGITAL ENTERPRISE TOP 4 ELEMENTS





## MATTHIAS NACHTIGAL, VICE CHAIRMAN, CONFEDERATION OF GERMAN JUNIOR ENTERPRISES

IFADER VIEV

The trend is that environmental sustainability and economic success are becoming more closely integrated. It's been a concern of today's society to leave to future generations an environmentally sustainable habitat and this will only strengthen in future. Companies will need to continue to invest in research and development into sustainability in order to survive in the market. Today economic success is predominantly determined by meeting customer demands but the wider challenge of environmental performance will grow in importance.

It's interesting that young people are embracing new technologies in the workplace. In the future, the speed of technological development and the number of innovations will only increase, so young people's existing affinity with technology will be highly advantageous and will reduce the amount of training needed. However, there are also risks of increasing the level of technology in the workplace, and businesses will need to ensure that the flood of information isn't actually overwhelming employees.



## SOILI MÄKINEN, CHIEF INFORMATION OFFICER, CARGOTEC

LEADER VIEW

I do think two of the fundamental things we should remember in any business – whether that business is itself a technology company or not – is that mobility and digital technologies are here in our everyday lives. The use of smartphones in virtually every context, the ease of communication, and the fact of always being online – these are all inherent parts of our private lives and are impacting businesses too.

The younger generations take this for granted. When they talk of communications, email is the last thing that comes to mind. In any industry, and especially in more conservative industries such as construction or engineering, these changes – and uses of communication tools like social networks and instant messaging – are things we have to embrace to attract new talent.

In industries that are less digitalised – as with many in our own sector – we are still thinking of technology through the lens of security threats and protecting the enterprise. New generations think in terms of cooperation and openness rather than this defensive view of technology.

It's interesting that sustainability is deemed important. We do see an increase in use of tools like telepresence, often driven more by time and cost savings, but the CO2 footprint is also growing and a recognised factor. However, sustainability is also being integrated in a deeper way into how we as a company do business – how we build our products, cut waste and create cleaner technologies. These are factors that younger people do find compelling – that even in heavy industries there is a push to improve environmental performance.

# IN THE FUTURE, SPEED OF TECHNOLOGICAL DEVELOPMENTS AND NUMBER OF INNOVATIONS WILL ONLY INCREASE.

Matthias Nachtigal, Vice Chairman, Confederation of German Junior Enterprises

IN ANY INDUSTRY, AND ESPECIALLY IN MORE CONSERVATIVE INDUSTRIES...USES OF COMMUNICATION TOOLS LIKE SOCIAL NETWORKS AND INSTANT MESSAGING — ARE THINGS WE HAVE TO EMBRACE TO ATTRACT NEW TALENT.

Soili Mäkinen, Chief Information Officer, Cargotec



## THE DIGITAL ENTERPRISE WORKPLACE





and work in a digital way from home or external locations such as cafés



## THE DIGITAL ENTERPRISE WORKPLACE



UNEMPLOYED AGE 27, GREECE

"The idea of working in a hot-desking space sounds great to me. I'm aware they are a good place to innovate and develop more creative ideas and solutions as you can brainstorm and discuss with others."

"In my field, the risk with digital jobs like being a web editor means that you spend your day in front of a computer. I'd rather be a reporter so that I can meet people."

CODER AGE 25, SWEDEN



### THE DIGITAL ENTERPRISE WORKPLACE

## THE DIGITAL ENTERPRISE WORKPLACE



## MIKE JOHNSON, FOUNDER OF FUTUREWORK PLACE FORUM

LEADER VIEW

The digital revolution isn't something you can switch on or off. It is there and part of all of our working lives. For too long we have talked of the workplace as some fixed spot. It isn't. Remember when you had to "go and make a phone call", that's not what it is like today, there is a number that defines you and you can be reached wherever you are. In the past, commentators have talked about Home Workers as though they are some exotic, quixotic pioneers – and that's so wrong. Work today is a blend, we commute some days to an office, we work at home on others, and we do onsite meetings and work with clients. There is no office day anymore and everyone needs to be aware of that.

When we see that 70% of young people prefer to work from a physical work office, I don't think that people polled here are wrong but that they may not have thought through what happens in a career. In your 20s being in a place like a big smart, trendy city is the cool thing to do, and is where talent congregates. As you get older – get married, have kids, buy a house – your needs and location changes and are not necessarily in the city anymore. Also, the "office" has replaced other places as the place to meet people socially as well as professionally – witness the rise of creative innovation hubs in big cities. So when you are young, there is a very strong need to congregate, but this is as much social as work.

# THE DIGITAL REVOLUTION ISN'T SOMETHING YOU CAN SWITCH ON OR OFF. IT IS THERE AND PART OF ALL OF OUR WORKING LIVES.

Mike Johnson, Founder of FutureWork Place Forum



## LYNDA GRATTON, PROFESSOR OF MANAGEMENT PRACTICE AT LONDON BUSINESS SCHOOL

LEADER VIEW

It seems counter-intuitive that a digital savvy generation would prefer to work in a physical office rather than from home. But this is the phase in life when you're most interested in other people. It's not surprising that they don't want to work on their own. This is the world's most socially connected generation too.

# ON THEIR OWN. THIS IS THE WORLD'S MOST SOCIALLY CONNECTED GENERATION TOO.

Lynda Gratton, Professor of Management Practice at London Business School



JOHN HIGGINS CBE, DIRECTOR GENERAL, DIGITALEUROPE

LEADER VIEW

Workplaces need to move towards being the sort of club that people want to be in. They don't need to be constrained by rigid office hours but be creating a space that people want to go to and that will facilitate working. At the same time they don't need to go there but they should be able to work remotely.

## WORKPLACES NEED TO MOVE TOWARDS BEING THE SORT OF CLUB THAT PEOPLE WANT TO BE IN

John Higgins CBE, Director General, DigitalEurope



## THE DIGITAL ENTERPRISE LEADERSHIP & SKILLS





PEOPLE-ORIENTED LEADERSHIP IS THE PREFERRED LEADERSHIP STYLE (59%)

64% STATE THAT SOCIAL AND CROSS CULTURAL INTELLIGENCE IS THE MOST IMPORTANT SKILL IN THE FUTURE DIGITAL ENTERPRISES

## THE DIGITAL ENTERPRISE LEADERSHIP & SKILLS



STUDENT AGE 20, UK

"I'd look for somewhere with less of a hierarchical system in the sense that it's more of a collaborative workplace where people can come together.

Perhaps someone leads, but there is more space for interaction and ideas on all levels."

"As a programmer, working for a Digital Enterprise brings interesting challenges. Often IT companies are younger and have a more flexible and flatter hierarchy, which I find appealing."

STUDENT AGE 21, DENMARK

"A leader has to be collaborative and be the one who is able to

share ideas and risks."

STUDENT AGE 23, BELGIUM

**PROGRAMMER** AGE 26, SWEDEN

"It is important to be people oriented, and to take into consideration the opinions of employees."



31% OF SWEDISH YOUTH CONSIDER SOCIAL/CROSS CULTURAL INTELLIGENCE THE MOST IMPORTANT SKILL IN A DIGITAL WORKPLACE COMPARED TO 21% IN THE UK.

OVER 4 TIMES AS MANY YOUNG GERMANS AS YOUNG SWEDES PLACE AN EMPHASIS ON "NEW MEDIA LITERACY"

## THE DIGITAL ENTERPRISE LEADERSHIP & SKILLS

## FELIX REIMANN, ASSISTANT PROFESSOR OF INTERNATIONAL BUSINESS AT WHU

We know that from a range of studies that a preference for people oriented leadership is not actually specific to young people and that most people would find this style of management more motivating. There is a preference for a more personal relationship with one's manager and a mutual degree of trust. Deriving from this, people wish to have more self-reliance and authority to take more decisions on their own. This is now part of good management practice and a characteristic of successful businesses.

It may be that with increased digitisation and practices such as remote working that there is a potential risk in a reduction in personal interactions and people-oriented management. It is therefore essential that managers need to take care to cater to the personal aspects of relationships with team members even if they are out of the office.

Working in academia, it is notable that young people have different expectations as to the workplace. The classic career in big, blue chip businesses and progressing up through the ranks of a firm is becoming less attractive. People want to take on responsibility and be able to take on responsibility at a much earlier stage in their careers. This is leading to working for smaller firms, start ups, or social enterprises becoming more attractive as these environments allow people to realise their own ideas much sooner.

THERE IS A PREFERENCE FOR A MORE PERSONAL RELATIONSHIP WITH ONE'S MANAGER AND A MUTUAL DEGREE OF TRUST. PEOPLE WISH TO HAVE MORE SELF-RELIANCE AND AUTHORITY TO TAKE DECISIONS ON THEIR OWN. THIS IS PART OF GOOD MANAGEMENT PRACTICE AND SUCCESSFUL BUSINESSES.

Felix Reimann, Assistant Professor of International Business at WHU





SOILI MÄKINEN, CHIEF INFORMATION OFFICER, CARGOTEC

LEADER VIEW

The days of management sitting in offices on the top floor and behind closed doors are long gone. Tweeting, blogging and communicating more openly creates an atmosphere of discussion and encourages people to give opinions, which is fundamental to driving progress forward.

AN ATMOSPHERE OF DISCUSSION AND ENCOURAGES PEOPLE TO GIVE OPINIONS, WHICH IS FUNDAMENTAL TO DRIVING PROGRESS FORWARD.

Soili Mäkinen, Chief Information Officer, Cargote

## THE DIGITAL ENTERPRISE LEADERSHIP & SKILLS

## THE DIGITAL ENTERPRISE LEADERSHIP & SKILLS



## DEREK O'HALLORAN, HEAD OF INFORMATION TECHNOLOGY INDUSTRIES, WORLD ECONOMIC FORUM USA

LEADER VIEV

Today, as a leader it is probably the case that your staff know more about the relevant parts of your business and know it before you do. The analogy is moving from leaders being a general to a conductor.

## THE ANALOGY IS MOVING FROM LEADERS BEING A GENERAL TO A CONDUCTOR.

Derek O'Halloran, Head of Information Technology Industries, World Economic Forum USA





## LYNDA GRATTON, PROFESSOR OF MANAGEMENT PRACTICE, LONDON BUSINESS SCHOOL

LEADER VIEW

This is a generation that's entering a workplace that's becoming more specialised. Today we are also seeing a hollowing out of the labour market and a shrinking of middle management roles. In the past ten years, those jobs involving a medium degree of education and training – once critical to ascending the career ladder - have started to disappear and this is contributing towards youth unemployment. Many of these middle jobs have been replaced by automation and technology, leaving either low-skilled or high-skilled, highly specialised jobs. But for Generation Y individuals aspiring to move up, the lack of these roles to learn skills means there is no place to start.

And in a workplace of specialists, young people are being asked to learn and work differently. They must learn one thing very deeply. They are increasingly being asked to work on more complex problems, collaborating – often virtually – with people all around the world.

Naturally, we must also consider the role of education in this, and the role of industry in helping teachers deliver a relevant curriculum. Additionally, we should consider the positive role that apprenticeships may play in addressing these challenges. Its not easy for a young person to become a specialist on their own, so companies should look at how they can foster talent. I would speculate that we may see more governments moving into apprenticeship schemes as a way of bridging this middle job gap.

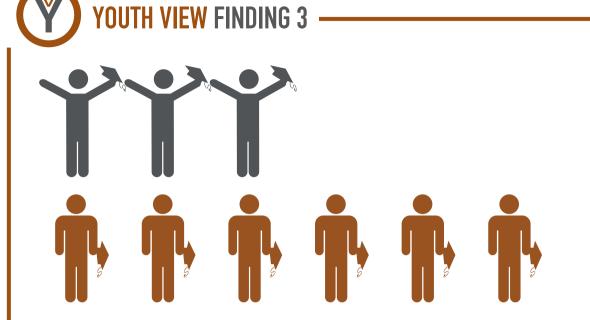
## IN A WORKPLACE OF SPECIALISTS, YOUNG PEOPLE ARE BEING ASKED TO LEARN AND WORK DIFFERENTLY.

Lynda Gratton, Professor of Management Practice, London Business School



## THE DIGITAL ENTERPRISE EDUCATION

## THE DIGITAL ENTERPRISE EDUCATION



THE EDUCATION SYSTEM IS INADEQUATELY PREPARING THE MAJORITY (63%) OF EUROPEAN YOUTH FOR A CAREER IN THE DIGITAL ENTERPRISE



AGE 29, THE NETHERLANDS

"Education gave me almost nothing; I picked up everything I have learnt through my own time and playing around with features myself."

"I think that my education is not focused enough on developing my ability to use technology as I would like."

> STUDENT AGE 20, SWEDEN

"There are still so many programmes, apps, etc. that I'm not familiar with, but that I know are used in many workplaces."

STUDENT AGE 25, SWEDEN

STUDENT AGE 19, BELGIUM

"At school we don't learn anything about technological skills or dealing with all those new technologies. If I use technological skills in a company, it's certainly not because of the education I received at school or university."

"My education hasn't helped me at all.
I study English Literature and
everything I have learnt to do with
digital technology I know through my
own social life."

STUDENT AGE 25, UK "Today's technology is developing way too fast. Everything is happening way too fast. I think I have to develop new technological skills every week to catch up with developments."

UNEMPLOYED AGE 22, SWEDEN



## THE DIGITAL ENTERPRISE EDUCATION

## THE DIGITAL ENTERPRISE EDUCATION



JOHN HIGGINS CBE, DIRECTOR-GENERAL, DIGITALEUROPE

LEADER VIEW

The perceived failure of the education system to prepare young people for the workplace is particularly interesting. However, this situation is nuanced. It requires more segmentation as to what we wish to prepare people for. There is a continuum. At one end there is a need to train people for careers where a sophisticated ability to use the tools provided by technology is essential. On the other end of the scale there is a demand for engineers that can create these technologies. What is vital is that there is a segmentation of the needs. Part of the underlying problem is that we talk about needing to prepare for careers in the digital world but if we want our educators to respond to this we need to give them more analysis as to what industry needs. We need more ICT graduates but we don't want people to be just ICT graduates. We have to be very careful to not conflate the vital need for more STEM trained people with readiness for the Digital Enterprise as these aren't the same thing and there is a range of skills needed to create a digital Europe.

SWEDISH YOUTH HOLD A PARTICULARLY SCEPTICAL VIEW OF THEIR EDUCATION, WITH 33% OF THE COUNTRY'S YOUTH LABELLING IT 'NOT USEFUL'.

"MODERATELY USEFUL".

AT ONE END THERE IS A NEED TO TRAIN PEOPLE FOR CAREERS WHERE A SOPHISTICATED ABILITY TO USE THE TOOLS PROVIDED BY TECHNOLOGY IS ESSENTIAL. ON THE OTHER END OF THE SCALE THERE IS A DEMAND FOR ENGINEERS THAT CAN CREATE THESE TECHNOLOGIES. WHAT IS VITAL IS THAT THERE IS A SEGMENTATION OF THE NEEDS.

John Higgins CBE, Director-General, DIGITALEUROPE

A MORE INTERESTING QUESTION IS NOT WHETHER THEY HAVE LEARNED EVERYTHING THEY NEED AT SCHOOL BUT WHETHER SCHOOL HAS ENABLED THEM TO LEARN WHAT THEY NEED. THERE I THINK EDUCATION IS NOT DOING SO BADLY.

Prof. A.H.G. Rinnooy Kan, University Professor Of Economics And Business, University Of Amsterdam (UVA)



## PROF. A.H.G. RINNOOY KAN, UNIVERSITY PROFESSOR OF ECONOMICS AND BUSINESS, UNIVERSITY OF AMSTERDAM (UVA)

LEADER VIEW

My own experience is that many young people – whether they learn digital skills at school or elsewhere – actually manage quite well in the digital world. However, almost inevitably schools and the educational system lag behind the pace of technology as there is a delay between the emergence of new technologies and their introduction into curricula. So there may be a sense of impatience that young people are expressing here.

A more interesting question is not whether they have learned everything they need to at school but whether school has enabled them to learn what they need. There I think education is not doing so badly. In terms of digital literacy, young people's ability to use and appreciate the opportunities of technologies is impressive. Therefore, I am inclined to be optimistic and – certainly for my own country, the Netherlands – I don't think there is a great concern from employers that young people can't use the technology they are being asked to use in the workplace. I'm actually more concerned about the ability of elderly people to use and benefit from new technologies. There you have serious issues, particularly from older management not recognising the benefits of technologies

fast enough. Young people by comparison are often waiting for the business to catch up.

Young people interviewed here are absolutely correct in their priorities. They may have overly optimistic expectations as to what the education system can provide but they are able to acquire the skills they need. I think the spirit of this report does reflect that young people tend to see their lives as a sequence of interesting opportunities and the digital era we are entering today only expands this. My overall sense is that we should of course bring digital technologies into education as quickly as possible, but not necessarily try to ensure that education tries to deliver the complete skill set that is required in future careers. It is more important to be able to enable that specific learning. Industry has a very strong interest to take a role in that later education through apprenticeships. Indeed any vocational education can only exist if it meets the needs of employers, so companies have a role in guiding the content of such education to ensure it provides the right tools. In the Netherlands, I have seen that this feedback loop between education and business is working relatively well.

## THE DIGITAL ENTERPRISE EDUCATION



## KIRSTEN BODLEY, CHIEF EXECUTIVE. STEMNET

I FADER VIEV

A high percentage of young people feel underprepared by education for working in the digital age. I don't see this as a surprise, but I would be surprised if this didn't improve, as there has been a growing awareness of the challenges of teaching STEM subjects.

Historically, there was a challenge where the curriculum could not keep up with the pace of change in technology itself. The impact was not just a shortage of people going into the technology industry but also a lack of people with the right skills going into teaching these subjects. Teachers will struggle to effectively teach these subjects if they're not experienced and confident in technology. But we are seeing a real change in the way these subjects are taught and industry engages with schools.

The problem isn't that young people aren't interested in technology and sciences, but more that young people don't see themselves in the career routes and roles, or identify with the image they have of a scientist, technologist or engineer. We need to help young people understand the opportunities and offer a context of the world of work and the real world, to show some of the excitement of those careers.

Don't underestimate the importance of role models and stereotypes. In many ways these stereotypes start early at a pre-school age, because unless a child knows someone in a STEM profession, maybe through their families, they often won't have an awareness of what these subjects or careers are, or that people in these professions can be someone like themselves.

Looking at STEM more broadly, there is an issue that in schools technology, maths and science are often taught as separate subjects, and may seem to be abstract whereas in the workplace these disciplines are all interlinked in practice. The important thing is to show how these subjects relate to each other in everyday life as well as in a variety of careers and industries. This is where industry can really support teachers and bring current technology applications through real world examples into the classroom. Established programmes, like STEMNET's STEM Ambassadors programme enables business and industry volunteers to go into the classroom as inspiring role models.

The more business and industry can work with all levels of education the better prepared our young people can be.

IN SCHOOLS, TECHNOLOGY, MATHS AND SCIENCE ARE OFTEN TAUGHT AS SEPARATE SUBJECTS, AND MAY SEEM TO BE ABSTRACT WHEREAS IN THE WORKPLACE THESE DISCIPLINES ARE ALL INTERLINKED IN PRACTICE. THE IMPORTANT THING IS TO SHOW HOW THESE SUBJECTS RELATE TO EACH OTHER IN EVERYDAY LIFE AS WELL AS IN A VARIETY OF CAREERS AND INDUSTRIES.

THE DIGITAL ENTERPRISE EDUCATION

# THE COMMISSION SIGNALS THAT BY 2015, 700,000 TO 1 MILLION ICT JOBS WILL NOT BE FILLED IN EUROPE, DUE TO LACK OF SKILLED PERSONNEL.

Pilar Del Castillo, Member Of The European Parliament



## PILAR DEL CASTILLO, MEMBER OF THE EUROPEAN PARLIAMENT

LEADER VIEW

Unemployment, including youth and long-term unemployment, has reached unacceptably high levels and it is likely to remain high in the near future, calling for determined and urgent action. At the same time, there are more than 4 million ICT workers across many sectors in Europe and their number is growing by 3% annually despite the crisis. The Commission signals that by 2015 700,000 to 1 million ICT jobs will not be filled in Europe, due to lack of skilled personnel. Europe is facing a shortage of skilled ICT workers and needs to make sure that young people get the right skills and enthusiasm to work within the digital sector and to become competitive in the global market. Efforts and investments are surely needed at both European and local level to innovate teaching. In this respect IT skills should be included in schools' programmes from a much younger age, if Europe wants to stay a true innovator. To find that only 63% of young people in this study believe that the education system is adequate clearly reflects this need.

A Youth Guarantee has been agreed at EU level to ensure that all young Europeans get a good quality job offer, further education or training, an apprenticeship or a traineeship within four months of leaving school or becoming unemployed. As part of the next multi-annual financial framework EUR 6 billion has been earmarked, to work alongside the European Social Fund, through a Youth Employment Initiative to support the Youth Guarantee. Although this EUR 6 billion seems scarcely sufficient to addressing the scale of the problem, its effectiveness could be maximised if the acquisition of digital skills is prioritised. Digital skills should be the indispensable component of all professional training, to ensure new generations as well as those currently in the workplace are able to acquire the skills they need.

## THE DIGITAL ENTERPRISE EDUCATION



## SIDONIA JĘDRZEJEWSKA, MEMBER OF THE EUROPEAN PARLIAMENT

LEADER VIEV

The digitisation of the workplace in the European industry is a step towards the knowledge-based economy. A simple desktop becomes a powerful tool in the hands of an ambitious, skilled and creative young European entrepreneur. The study prepared by ThinkYoung – TCS shows that the majority of young people feel that European education systems should be better prepared to deliver necessary knowledge and skills to work in the Digital Enterprises of the future.

Digitisation is an on-going process that European firms are dealing with on a daily basis. What we have to ensure is that no enterprises are excluded from it. It is crucial that small and micro enterprises, and especially start-ups, have access to advanced hardware and software, expanding their business opportunities. Communication services, office applications and Cloud computing, all in all, open many doors in front of young entrepreneurs and let them go global from day one. In this context, it is crucial to emphasise the role of the public sector in supporting young entrepreneurship. I hope that the EU programmes, such as COSME and Horizon 2020, are well tailored to help young entrepreneurs to pursue their business dreams.

This study shows that 63% of young people feel that European education systems are not delivering the necessary knowledge and skills to work in the Digital Enterprise of the future.

This figure confirms my own view from numerous meetings with young people from Poland. The education system in my country equips students mostly with pure theory without giving a chance to use it in practice on real case studies. We leave them poorly prepared for work in their dream Digital Enterprises and pass on the burden of training to their future employers.

If we just take a brief look at the fastest growing industries in Europe, we quickly realise that we should provide students with a broader range of IT skills and tools that they could apply straightaway in their first jobs. The hi-tech sector expects young people to have the ability to harness business and scientific problems with more and more sophisticated IT tools. Office applications are just the starting point. Programming skills and knowledge as to how to tackle problems using data analysis software is a necessity in a growing number of industries. But there is more than that. Another trend is an increasing demand for the use of social media platforms. Such online applications give a huge communication advantage used in both private and public sectors. Although such tools seem to be simple, they require a certain level of finesse that we can try to develop during studies. In order to build a European knowledge-based economy on strong foundations we have to change our way of thinking about education and bring it closer to the expectations of Digital Enterprises.

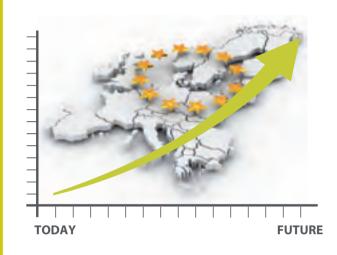
IT IS CRUCIAL THAT SMALL AND MICRO ENTERPRISES, AND ESPECIALLY START-UPS, HAVE ACCESS TO ADVANCED HARDWARE AND SOFTWARE EXPANDING THEIR BUSINESS OPPORTUNITIES.





## THE DIGITAL ENTERPRISE MOBILITY



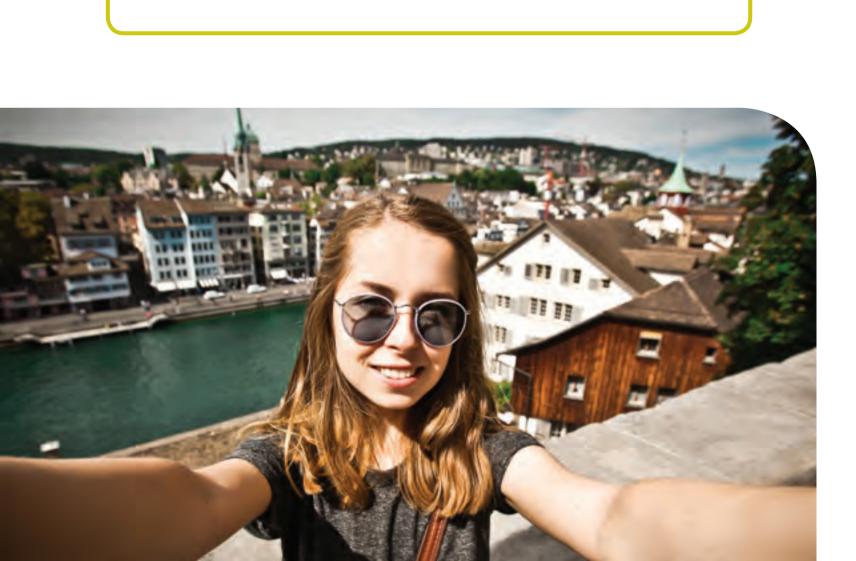


INTRA EU MOBILITY IS SET TO GROW

TODAY'S EUROPEAN YOUTH IS MUCH MORE OPEN TO CHANGE.

86% FIND IT DESIRABLE TO MOVE BETWEEN COUNTRIES.

87% WANT TO MOVE BETWEEN INDUSTRIES.





"I did an ERASMUS year during my undergraduate studies and that helped me a lot in improving my language skills. I also find it desirable to move between industries as this can provide you with insights in practices that have not been taken into consideration in other sectors but might be applicable to them also!"

> STUDENT AGE 23, BELGIUM

THE DIGITAL ENTERPRISE MOBILITY

"I studied European Relations in Holland, then went to work for a NGO in Belgium. Would I be happy to go back to work in Germany for an automobile firm? I still have the core and soft skills to make the switch and I am always open to learn more."

> STUDENT AGE 25, GERMANY

LAWYER AGE 21, SWEDEN

"I think less geographic boundaries will provide easier marketing and flow of goods."



"I think you learn a lot from moving between countries and industries as you see how they work and have the choice to take the best out of it, whatever it is."

> STUDENT AGE 19. BELGIUM



## DEREK O'HALLORAN, ASSOCIATE DIRECTOR, HEAD OF INFORMATION TECHNOLOGY INDUSTRIES, WORLD ECONOMIC FORUM

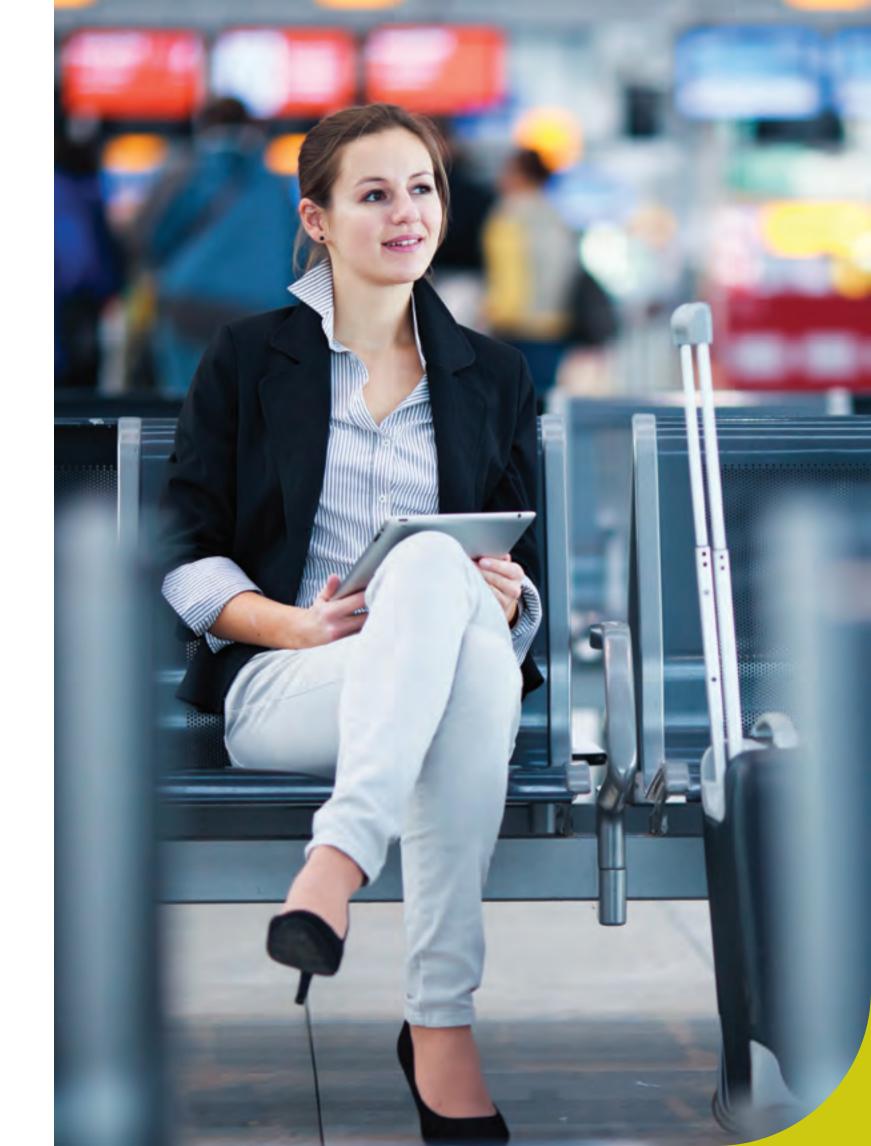
LEADER VIEV

This openness to change is interesting. People often speak of a movement towards a greater level of global dependency and interconnectivity, however during tougher economic times there is the risk of a reversion to nationalism. Indeed, if you look at the degree of economic integration globally and amount of trade between countries, there is today the one historic parallel was at the beginning of the twentieth century before a traumatic backlash both economically and in terms of nationalist movements. So there is a concern that such integration as we have could actually be a fragile state. It's therefore encouraging that in Europe the number of younger people that want to move between countries is so high and there's a commitment to cultural and social integration and change.

In terms of moving between industries, this speaks of a near total decline of the concept of having a "job for life" in Europe. From this, the decline in the idea of being in an industry for life is a natural progression. Industry silos are also becoming more difficult to distinguish, particularly as things and people become more connected which allows for new disruptions in these silos. Take Amazon, which could be seen as technology company, or a retailer, or a media company. Fedex describes itself as an IT company. Similarly Google plays in a number of spaces – tech, media, and now robotics, home automation, cars. As more devices become connected, the blurring of boundaries we've seen in media and retail industries will spread to other industries, with the most valuable being created at the intersection of industry silos. In that context and from a young person's point of view, the idea that you work in an industry for life is probably somewhat alien.

THIS OPENNESS TO CHANGE IS INTERESTING. PEOPLE OFTEN SPEAK OF A MOVEMENT TOWARDS A GREATER LEVEL OF GLOBAL DEPENDENCY AND INTERCONNECTIVITY, HOWEVER DURING TOUGHER ECONOMIC TIMES THERE IS THE RISK OF A REVERSION TO NATIONALISM.

Derek O'Halloran, Head of Information Technology Industries, World Economic Forum



## THE DIGITAL ENTERPRISE MOBILITY



## MARKUS J. BEYRER, DIRECTOR GENERAL, BUSINESSEUROPE

LEADER VIEW

It is both striking and encouraging that such a high percentage of the respondents find it desirable to move between countries within the EU.

Certainly, one of the areas our organisation has been active in campaigning for is labour market mobility between member states. This is going to be increasingly important to help address employers' staff and skills needs, particularly as certain pressures come to bear on the EU's job market. Firstly, as the Baby Boomer generation enters retirement, we anticipate a need to replace 75 million workers by 2020. The second key issue is addressing skill mismatches within the EU – of which shortages in STEM skills will be a significant issue.

With those pressures in mind, the appetite of young people to move to other member states to seek opportunities is incredibly positive as it aligns well with the requirements of both national economies and employers.

However, the current situation paints a rather different picture. Today, in the region of just 3% of EU nationals live and work in a country other than their own. Furthermore, only 0.1% of the entire EU workforce moves country in a given year for work – that's compared with 3% between US states. Those figures relate to the whole workforce and not just young workers, who undoubtedly have the greatest propensity to move of all age groups. However, when we compare today's situation to the finding in this research that shows that 86% of young people are receptive to mobility, we must ask what impediments may exist and what more can be done to address this situation.

One key reason is that, unlike the US, there is a lack of common language across the EU. Alongside STEM skills, we should not forget the vital importance of language skills. It is essential that education provides pupils with the opportunity to learn at least one other EU language. Beyond this, we should also look at how educational qualifications are recognised, both through simplified and time-efficient procedures and through a common approach to quality levels for education and training across member states.

IT IS BOTH STRIKING AND ENCOURAGING THAT SUCH A HIGH PERCENTAGE OF THE RESPONDENTS FIND IT DESIRABLE TO MOVE BETWEEN COUNTRIES WITHIN THE EU.

Markus J. Beyrer, Director General, BUSINESSEUROPE

## THE DIGITAL ENTERPRISE MOBILITY



## PROF. A.H.G. RINNOOY KAN, UNIVERSITY PROFESSOR OF ECONOMICS AND BUSINESS, UNIVERSITY OF AMSTERDAM (UVA)

LEADER VIEW

The current statistics are very poor for people seeking jobs elsewhere in Europe – it is more like 2% rather than 86%. Either people are over optimistic about opportunities or they are voicing an intention that never materialises. Whatever the explanation, it is encouraging as this mobility is what Europe has always been about. Now that young people have realised that this is what the European Union offers to them it is to be hoped that they benefit more than the previous generations have. It has been surprising in universities how few students take advantage of great opportunities like the ERASMUS programme. The finding in this study is therefore amazingly, yet encouragingly high.

EITHER PEOPLE ARE OVER OPTIMISTIC ABOUT OPPORTUNITIES OR THEY ARE VOICING AN INTENTION THAT NEVER MATERIALISES. WHATEVER THE EXPLANATION, IT IS ENCOURAGING AS THIS MOBILITY IS WHAT EUROPE HAS ALWAYS BEEN ABOUT.

Prof. A.H.G. Rinnooy Kan, University Professor Of Economics And Business, UVA

## 



## THE DIGITAL ENTERPRISE INNOVATION

## VOLITH VIEW FINDING 7





## INTERNAL INNOVATION

EUROPEAN YOUTH BELIEVE THE TOP 2 ELEMENTS THAT SUPPORT INTERNAL INNOVATION ARE:

DEDICATED TIME AND INCENTIVE TO INNOVATIVE THINKING (51%) AND ACCESS TO ORGANISATIONAL NETWORK INFORMATION (15%)



## THE DIGITAL ENTERPRISE INNOVATION



RECRUITMENT PROFFESIONAL AGE 27, HUNGARY

> "Holding regular meetings with employees and getting direct feedback from the people who build and work on the business would probably help find the most innovative solutions."

"I think the idea of gaining bonuses such as remuneration and extra holidays in exchange for innovative processes and tangible outcomes would help to boost entrepreneurship. More people would go the extra mile for the organisation."

STUDENT AGE 23, CZECH REPUBLIC "I would say it's important that management opens itself to the staff and also communicates what needs to be improved."

> STUDENT 19, BELGIUM



## THE DIGITAL ENTERPRISE INNOVATION



## LYNDA GRATTON, PROFESSOR OF MANAGEMENT PRACTICE. LONDON BUSINESS SCHOOL

LEADER VIEW

This is a generation that's entering a workplace that's becoming more specialised. Many of the middle management jobs have been replaced by automation and technology, leaving either low-skilled or high-skilled, highly specialised jobs. But for Generation Y individuals aspiring to move up, the lack of these roles to learn skills means there is no place to start. And in a workplace of specialists, young people are being asked to learn and work differently.

THIS IS A GENERATION THAT'S ENTERING A WORKPLACE THAT'S BECOMING MORE SPECIALISED. MANY OF THE MIDDLE MANAGEMENT JOBS HAVE BEEN REPLACED BY AUTOMATION AND TECHNOLOGY, LEAVING EITHER LOW-SKILLED OR HIGH-SKILLED, HIGHLY SPECIALISED JOBS.

Lynda Gratton, Professor of Management Practice, London Business School

## FELIX REIMANN, ASSISTANT PROFESSOR OF INTERNATIONAL BUSINESS, WHU

Fostering innovation is an increasingly big challenge for large enterprises. It has much to do with corporate culture. Respondents to this survey have identified that dedicated time and incentives are needed in order to encourage innovation at work. However, I am not sure that these alone would be sufficient if merely inserted within the old hierarchy and culture of a firm. Indeed businesses also need to address some of the cultural issues and structures that make innovation possible. For example, by creating smaller more flexible teams that have more autonomy in how they operate within the firm and empowering these to drive radical innovative projects.

RESPONDENTS TO THIS SURVEY HAVE IDENTIFIED THAT DEDICATED TIME AND INCENTIVES ARE NEEDED IN ORDER TO ENCOURAGE INNOVATION AT WORK. HOWEVER, I AM NOT SURE THAT THESE ALONE WOULD BE SUFFICIENT IF MERELY INSERTED WITHIN THE OLD HIERARCHY AND CULTURE OF A FIRM. INDEED BUSINESSES ALSO NEED TO ADDRESS SOME OF THE CULTURAL ISSUES AND STRUCTURES THAT MAKE INNOVATION POSSIBLE.

Felix Reimann, Assistant Professor of International Business at WHU



## DR PETER VOGEL, ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

IFADER VIEW

In most large organisations, building structures and a culture of innovation is a challenging but not impossible undertaking that requires fundamental conceptual rethinking. It is needed, however, as corporate entrepreneurship is a major mechanism for revitalising organisations and enhancing performance.

In the ThinkYoung-TCS survey, we see that 51% of young Europeans believe that the biggest drivers of internal innovation are specifically dedicated time and incentives. Today, in corporate environments, talent is hardly ever utilised to their full potential. In fact, talent that brings up creative ideas inside larger corporations often face managerial responses such as "this is how things are done around here". Such thinking creates an inhospitable environment for innovation.

It is therefore vital for companies to address such issues in order to design their business in a way that promotes a culture of innovation. This involves the organisations' value system, visions and norms on the one hand and the employees' mindset, passion and tolerance of failure on the other hand. Innovation must be placed at the core of an honest organisation value system. A leadership style that involves all employees in the innovation process should be developed and a business culture where failure is broadly accepted as part of product or service development.

Open communication of information, ideas and feelings has been described as "the lifeblood of innovation". Yet, many large organisations are stuck in secrecy-driven R&D processes that seldom involve external stakeholders.

In recent years, there have been two major trends in the entrepreneurial domain that have changed the way that innovation happens: "pivoting" and "open innovation / crowdsourcing". The ThinkYoung – TCS survey reveals that European youth wish for a more open communication with employees in order to include everyone in the innovation process. As with their insight into the need for businesses to include innovation at a structural level, we find young people's instincts on the power of communication to be well aligned to the realities of modern business.

THE THINKYOUNG — TCS SURVEY REVEALS THAT EUROPEAN YOUTH WISH FOR A MORE OPEN COMMUNICATION WITH EMPLOYEES IN ORDER TO INCLUDE EVERYONE IN THE INNOVATION PROCESS AND FOR BUSINESSES TO INCLUDE INNOVATION AT A STRUCTURAL LEVEL. WE FIND YOUNG PEOPLE'S INSTINCTS ON THE POWER OF COMMUNICATION TO BE WELL ALIGNED TO THE REALITIES OF MODERN BUSINESS.

Dr Peter Vogel, École Polytechnique Fédérale De Lausanne

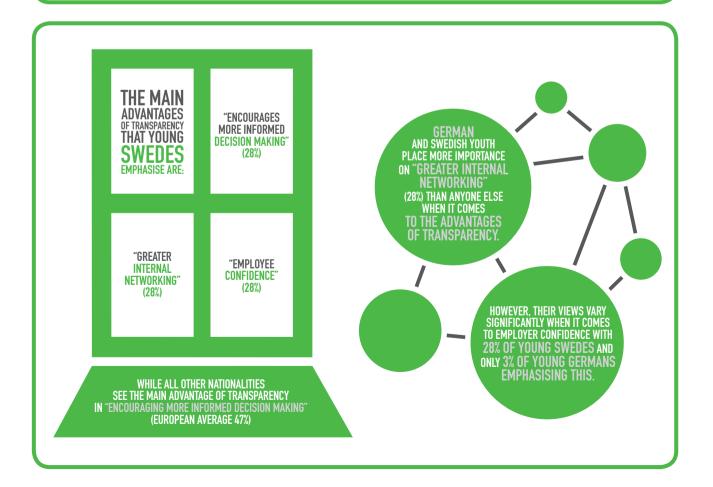


## THE DIGITAL ENTERPRISE TRANSPARENCY





73% OF EUROPEAN YOUTH BELIEVE THAT TECHNOLOGY ENABLES TRANSPARENCY AND THAT THIS IMPROVES INFORMED DECISION MAKING



## THE DIGITAL ENTERPRISE TRANSPARENCY



SELF-EMPLOYED IN DESIGN AGE 27, BELGIUM

"Due to the impact of new technologies on businesses - for instance by Twitter, Facebook, etc., companies can be held accountable much easier and more quickly for their actions. Thus decision-makers pay more attention before they actually make a decision!"

"I think technology can help organisations to be more transparent because highly advanced technological services make it easier to process data and make it more accessible to the stakeholders. Therefore data and the decisions based on the data become more transparent."

STUDENT AGE 20, SWEDEN

"To me it means a more efficient communication system."

STUDENT AGE 21, GERMANY EMPLOYED IN IT AGE 26, SWEDEN

"Faster communication, sharing of information, but also no privacy and highly competitive. And fast also means less thorough."

"In general, I would say that transparency has the potential to make the world a better place and technology certainly helps increase transparency. The risk is just that transparency can also be exploited in very bad ways too."

STUDENT AGE 23, DENMARK

## THE DIGITAL ENTERPRISE TRANSPARENCY

# THERE ARE LIMITS AND BORDERS ON INFORMATION AND WE DO NOT HAVE A WORLD WHERE THERE IS A FREE FLOW OF INFORMATION.

Felix Reimann, Assistant Professor Of International Business, WHU

## FELIX REIMANN, ASSISTANT PROFESSOR OF INTERNATIONAL BUSINESS, WHU

Clearly, transparency has several connotations. Firstly, it can imply improved information reaching management to informed decision making, and certainly technology is playing a key role in enabling this, especially through big data. Then there is whether employees within companies are informed as to the company's actions and strategy and this can be facilitated by technology. Moreover this is an issue of culture and how management plan and enact a communication strategy. Finally, there is external transparency – how far the public, the media, and interest groups are aware of what companies are doing and can act on this information. This has very much

been driven by technology as today we have a much quicker dissemination of information on social media, discussion forums and Twitter, which can push what would have once been obscure actions directly into the public eye. This can be an opportunity and threat to companies depending on how they operate. Of course there are limits and borders on information and we do not have a world where there is a free flow of information, but the velocity of information has accelerated enormously in the past decade, which is clearly recognised in this study.

## THE DIGITAL ENTERPRISE TRANSPARENCY

## FOR GENERATION Y, THEY EXPECT BUSINESS TO ADOPT A PHILOSOPHY OF OPENNESS.

Timo Katajisto, EVP, Elisa Corporation



## TIMO KATAJISTO, M.SC. (TECH.), EXECUTIVE VICE PRESIDENT, PRODUCTION AND MEMBER OF THE EXECUTIVE BOARD, ELISA CORPORATION

LEADER VIEW

This increased transparency is already happening in businesses and only likely to increase. Today's values mean that it is important to be honest and say things as they are. Technological developments have flushed corporations out of the bushes and there is now nowhere to hide. With more information about how businesses operate and behave in the public domain, people are forging their opinions in a different manner. This is particularly true when things go wrong but businesses always need to assume an unprecedented level of public regard and scrutiny that is only set to increase with people's use of technology.

As well as this external stakeholder pressure, it applies internally. To get the best talent you need to be transparent and open. People are motivated when they know what they are working for, what the targets are and about the changes as they happen. My own experience in running an IT transformation programme bore this out. From the earliest stage in the project

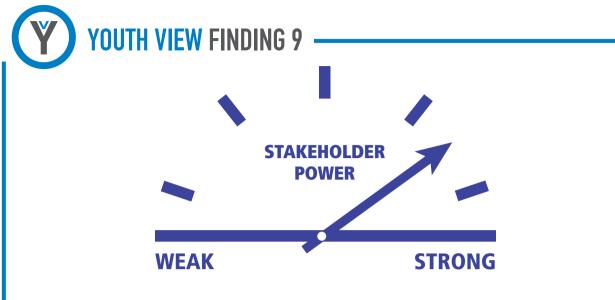
we told employees of the strategy. Doing so actually prevented the news of the process being leaked externally and also helped improve acceptance and cooperation with the process. Feedback after the event revealed that being open helped staff stay motivated and positive about the change. Even a difficult truth can be appreciated when it brings people into the process and gives them ownership.

These sorts of lessons are being learned by businesses, not only when it comes to managing change but also in the everyday business of attracting and retaining the best people.

For Generation Y, they expect business to adopt a philosophy of openness. They are native users of digital communications and online services and always online. They expect their work lives to reflect their own personal values and demand this as a minimum standard in prospective employers.



## THE DIGITAL ENTERPRISE EXTERNAL STAKEHOLDERS



THE INCREASING POWER OF EXTERNAL STAKEHOLDERS IS SEEN BY EUROPEAN YOUTH AS AN OPPORTUNITY (79%).
THEY SEE THEM AS INVESTORS (26%) AND CONSUMERS (23%).



## THE DIGITAL ENTERPRISE EXTERNAL STAKEHOLDERS



EMPLOYED IN IT AGE 28, GERMANY

"External stakeholders can be an opportunity as well as a threat depending on who they are and what they are trying to achieve. Among all stakeholders, investors and consumers are the most important and companies need to ensure that their demands are met and balanced!"

"External stakeholders are definitely an opportunity as with their help a company can anticipate much more important factors than by only taking into consideration internal ones."

**STUDENT** AGE 23. BELGIUM

"They are definitely an opportunity, but must be handled very carefully. They can bring new investment, or improve the reputation of the company, but can also drain resources, or discover things that a company might want to hide."

> NGO AGE 24, ITALY

"External stakeholders are both a necessity and a curse: they are very important for starting a business, especially when it comes to funding, but later often become a problem because they have too much control and thus can block vital decisions."

SELF-EMPLOYED IN IT, AGE 27, BELGIUM

"More flexibility will mean faster processes, but only if all colleagues are able to use it!"

TEACHER, AGE 25, GERMANY

### THE DIGITAL ENTERPRISE EXTERNAL STAKEHOLDERS



## JOHN HIGGINS CBE, DIRECTOR-GENERAL, DIGITALEUROPE

LEADER VIE

This is a very mature observation and it is very telling that young people recognise the holistic picture. It has not always been the norm that young people go into a job and understand the needs of customers and investors. This external awareness is striking and very heartening.

YOUNG PEOPLE NOW RECOGNISE THE HOLISTIC PICTURE. IT HAS NOT ALWAYS BEEN THE NORM THAT YOUNG PEOPLE GO INTO A JOB AND UNDERSTAND THE NEEDS OF CUSTOMERS, INVESTORS. THIS EXTERNAL AWARENESS IS STRIKING AND VERY HEARTENING.

John Higgins CBE, Director-General, DIGITALEUROPE

## THE DIGITAL ENTERPRISE EXTERNAL STAKEHOLDERS



## L FADER VIEW

## MATTHIAS NACHTIGAL, VICE CHAIRMAN, CONFEDERATION OF GERMAN JUNIOR ENTERPRISES

In the future, investors and customers will continue to be the most important stakeholders, and companies will always need to satisfy their interests and needs to ensure their long-term success in the market. However, a greater level of technology will increase the possibility for interaction with stakeholders, and the focus should be on adopting a partnership relationship with these. Additionally, organisations will now encounter and be scrutinised by a wider range of stakeholders, which will increase the pressure to disclose a greater degree of information to meet expectations.

In order to adapt to an increasingly permeable enterprise, the magic word is "transparency". Both internal and external stakeholders want to be actively involved in the development of a company, which will mean creating a level of transparency within an organisation and externally. This will involve a tension between how much and how little information should be disclosed and to whom, requiring careful and targeted communication.

The opportunities quite clearly outweigh the risks. There is a risk that companies disclose competitive information and thus weaken their market position against competitors. However, this can be prevented by good preparation and through building stronger relationships with stakeholders. This behaviour can have a positive impact on areas such as debt financing, innovation and customer relationships, so it's ultimately in an organisation's long term interests.

IN ORDER TO ADAPT TO AN INCREASINGLY PERMEABLE ENTERPRISE, THE MAGIC WORD IS "TRANSPARENCY". BOTH INTERNAL AND EXTERNAL STAKEHOLDERS WANT TO BE ACTIVELY INVOLVED IN THE DEVELOPMENT OF A COMPANY.

Matthias Nachtigal, Vice Chairman, Confederation of German Junior Enterprises



## THE DIGITAL ENTERPRISE CAREER FACTORS



## CAREER FACTORS TITLE

Only 7% of European youth care about the brand, benefits and salary of a company.

CAREER OPPORTUNITIES (48%) & ROLE RESPONSIBILITIES (22%) ARE THE TWO MOST IMPORTANT FACTORS WHEN APPLYING FOR A JOB.



## THE DIGITAL ENTERPRISE CAREER FACTORS



STUDENT AGE 23, DENMARK

"Career opportunities and role responsibilities are for sure the most important factors for young people as at the beginning of a young person's career.

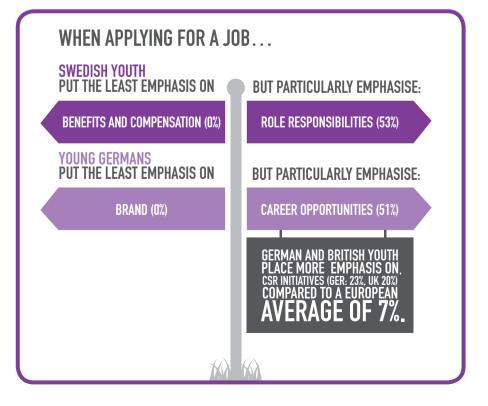
It's very important to gain valuable experience and confidence."

"I'd like to have the possibility to move up, to improve my career and take responsibilities."

SELF-EMPLOYED IN IT AGE 27, BELGIUM STUDENT AGE 20, UK "I hope for a modern, flexible working place in constant development, where as a young, ambitious person you could grow."

> FINANCE AGE 21, SWEDEN

"I don't really care whether the company I work for has a big name and neither do I really care about the pay as I can work really cheap. For me it's much more important to have flexible hours and that the content of the work appeals to me."



## THE DIGITAL ENTERPRISE CAREER FACTORS

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## DEREK O'HALLORAN, ASSOCIATE DIRECTOR, HEAD OF INFORMATION TECHNOLOGY INDUSTRIES, WORLD ECONOMIC FORUM

LEADER VIEV

It's been some time since young people consider the benefits offered as the primary reason for joining a company. This goes back to a period where the company mattered due to the idea of a job for life. Equally the starting salary is far less important than where a job will take you in future. The focus now is the overall opportunities a job can offer, as its understood that you will have to change roles in future, whether within the organisation, or more broadly to move into other industries. The environment now is one where people move a lot within their career, so career opportunities are naturally more important. This finding is perhaps not surprising but reconfirms this shift towards a more change-driven, holistic perspective of a career.

The lower importance of brand is interesting, but I do wonder if many people don't realise how much they are responding to a brand. Joining a cool start up may not be a global name but it has a brand that says something about who you are. If you want to build a career then companies with a high level of innovation or a specific set of values, do carry a value.

THE ENVIRONMENT NOW IS ONE WHERE PEOPLE MOVE A LOT WITHIN THEIR CAREER, SO CAREER OPPORTUNITIES ARE NATURALLY MORE IMPORTANT. THIS FINDING IS PERHAPS NOT SURPRISING BUT RECONFIRMS THIS SHIFT TOWARDS A MORE CHANGE-DRIVEN, HOLISTIC PERSPECTIVE OF A CAREER.

Derek O'Halloran, Head of Information Technology Industries, World Economic Forum



## TIMO KATAJISTO, M.SC. (TECH.), EXECUTIVE VICE PRESIDENT, PRODUCTION AND MEMBER OF THE EXECUTIVE BOARD. ELISA CORPORATION

I FADER VIEW

The challenge offered by a new job matters much more to young people when considering jobs.

The brand still matters, but more in terms of the degree to which that brand has a drive behind it, a set of values and qualities that implies career challenges and opportunities. So a technology or an ICT company that is seen as being particularly innovative or dynamic will attract people that believe in its reputation and associate this forward looking attitude with opportunities to work in interesting areas. It's not just about being a big company or offering a good salary. It has shifted to being about offering a challenge that is interesting. This is particularly true of areas like software engineering, where skilled people are as likely to want to work for a start up in a cutting edge field as for larger corporations.

THE CHALLENGE OFFERED BY A NEW JOB MATTERS MUCH MORE TO YOUNG PEOPLE WHEN CONSIDERING JOBS. BRAND STILL MATTERS BUT MORE IN TERMS OF THE DEGREE TO WHICH THAT BRAND HAS A DRIVE BEHIND IT, A SET OF VALUES AND QUALITIES THAT IMPLIES CAREER CHALLENGES AND OPPORTUNITIES.

Timo Katajisto, EVP, Elisa Corporation

## **CONCLUSIONS**

Should we be surprised that this – the most connected generation in human history – is highly aware of the macro-economic and demographic forces shaping their lives and world? Generation Y is often criticised as being overly self- or celebrity- obsessed, or for being disengaged with politics. It is thought their attention spans are being whittled away by social media addiction. Yet, this research paints a picture of a more integrated, interconnected global society with surprising pragmatism, which is adapting to a more competitive climate in the digital age.

A survey of people under 30 could be expected to reveal a degree of youthful naivety and optimism, but more often we discovered a generation that has already anticipated the changes that business leaders and experts predict as being necessary. This is a generation that is all too aware that there are no more jobs for life and that they are solely responsible for their careers. As the longest-lived generation yet, their careers will extend decades past those of previous generations and inevitably include the need to adapt to new challenges, technologies and take new roles in new companies.

Hence, rather than seek a blue-chip employer or be attracted by the best possible starting salary, young people express a preference for jobs that provide more responsibility, and roles that offer a more rapid acquisition of the skills needed to be more marketable to prospective employers. And while few respondents stated that a company's brand mattered, it is evident that the broader scope of values and ambitions (especially innovation) demonstrated by an organisation are significant factors when choosing a prospective employer – both aspects of brand as it is defined in the wider sense. This is an awareness that such careers have a narrative that is attractive to others and easy to market. Although young people may not want to work for a big brand, they do want an employer that will help them develop their own personal brand.

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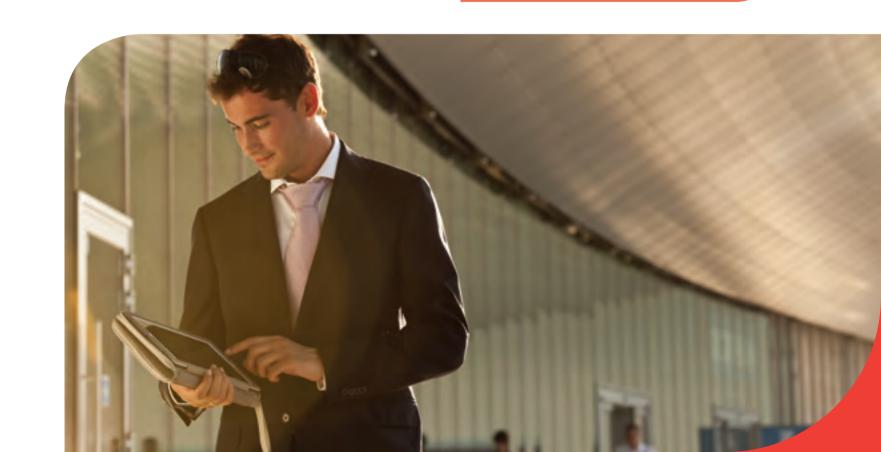
Asking a generation of digital natives about technology reveals both predictable levels of comfort with its use but also significant anxiety. Use of technology has changed expectations as to how organisations communicate. Young people that have been raised in the age of Twitter and WikiLeaks, expect and accept a high level of transparency as a given. Similarly, they believe that company leadership should embrace social media and adopt a more open and people-oriented management style. Communication in enterprises must utilise the tools of the modern age but also the openness and integrity that is expected within social media. Again, this aligns to the broadest definition of brand – where an organisation's integrity depends on an alignment of values and behaviours. Interestingly, many of the business leaders and academics spoken to for this report also confirm that these are essential attributes in successful enterprises. All companies must transform to thrive in the digital age, and it seems they will discover their young employees are already ready and waiting for them to catch up.

One of the most striking results was the degree to which the teaching of technology was felt to be falling short, with nearly two thirds feeling ill-prepared for their careers by the education system. Many of the interviews noted that most IT skills remained self-taught, and that those already in careers had experienced a disconnect between the skills they had been taught and those needed by employers. The responses from Member of the European Parliament and experts in this report have suggested that targeted investment is needed as is a greater exchange between employers and educators to help keep the syllabus in line with technology advances and to close skills gaps.

It is also noteworthy that this agile generation is highly receptive to the idea of moving within Europe, with 86% finding it desirable to move between countries. This appears to be good news for Europe as the aspiration sits well with the goals of the European Single Market.

However, several of our commentators have noted that the current level of migration within the EU is presently at around 2-3%, which suggests that serious barriers – such as language skills and the ability to use qualifications in other countries – still exist to achieving this goal.

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## **RECOMMENDATIONS**

1. Employers and educators must work together to address technology skills gaps
The education system needs to be closer aligned to the requirements of business and provide more relevant skills. Our findings suggested that there needs to be a more effective feedback loop between educators and employers, helping the syllabus adapt to the pace of technological change.

Employers should also play an active role in developing skills during education by providing ambassadors and role models for their professions to participate in teaching STEM skills.

Different professions require a different degree of technology training. While there is a demand for programming skills from employers in the technology industries, it should be understood that all professions now need a basic threshold of digital skills. Contributors to this report have recommended that these minimum standards need to be defined and met by the education system.

2. Employers must provide diverse and challenging careers to attract and retain the best talent

Generation Y employees see their jobs largely through the lens of a career that will be diverse, long lasting and spread over a range of industries and employers. A recognition that there are no more jobs for life means that a good job is increasingly seen as one that contributes to a wider set of marketable skills and a career that extends beyond the time with their current employer. Acknowledging this outlook and providing a continually evolving set of challenges is the best way to attract and retain talent.

3. Balance mobility with in-person interaction

While ICT enables mobility and offers the flexibility to work remotely, younger workers place a premium on being in a physical workplace both for its social advantages and for its learning opportunities. Businesses able to create workplaces that deliver this collaborative and social function will offer a more attractive proposition to Generation Y workers.

4. Fast, flexible communication is now a given

Younger generations take the use of online communications and social media for granted and will demand the use of such tools in their workplace. This extends to how the leadership communicates with employees: leaders should adopt both the tools and the open, more personable style of social media.

5. Values, ownership and integrity matter

Integrity and an alignment of a company's values and business practices is a vital part of your brand as an employer. Young workers' expectations concerning people-oriented leadership and transparency, means they expect management to communicate the goals and the strategy of the business in order to take ownership of these. Hence, the "why" matters as much as the "how."

6. Innovation needs to be designed into an organisation and is integral to its values

Young people believe that companies need to offer time, incentives and information to their employees to facilitate innovation. This is in line with the industry experts consulted in this report, who have also indicated that the process needs to go much further.

Businesses should transform their culture

and processes to create a climate in which innovation is possible. As well as structuring teams to capture some of the flexibility and non-hierarchical aspects of start-ups, values are vital, and in particular instilling an ethos that is tolerant of failure.

There is a demand for a different style of leadership within enterprises, the move from "leaders being a general to a conductor." Information can no longer be concentrated at the centre of an organisation and management must develop tools and processes for tapping into dispersed expertise skills and effectively distributing knowledge to the point of need.

7. Young Europeans are international in outlook, but barriers to mobility must be overcome

While the vast majority of young people would like to move between countries, the low level of migration within the EU suggests that legislators must work to overcome the barriers to this goal with improved language skills, EU-wide minimum standards of education and greater transferability of qualifications, key recommendations madeby contributors to this report.



EMPLOYERS SHOULD ALSO PLAY AN ACTIVE ROLE IN DEVELOPING SKILLS DURING EDUCATION BY PROVIDING AMBASSADORS AND ROLE MODELS FOR THEIR PROFESSIONS TO PARTICIPATE IN TEACHING STEM SKILLS.



# FINAL WORD ANDREA GEROSA, THINKYOUNG FOUNDER

Since 2008, we have seen the environment that our generation lives in drastically change.

Young people living in the post-2008 reality face a very different set of challenges than their peers of only few years earlier. In particular, sluggish economic growth, rise of entrenched youth unemployment and a changing working environment have meant that the skills needed to survive in the workplace are not what they were 10 years ago. This is why we are very happy to have partnered with Tata Consultancy Services in discovering more about what young Europeans think about the future of the workplace.

We found a number of the findings to be very striking, with the EU youth of today speaking with a strong single voice in regards to many topics. For instance, it is very interesting to see that 70% of young people who responded still value the idea of working in a physical office and desire the human interaction it provides, as opposed to working in a digital setting.

This might be caused by the strong desire and motivation, after having spent about 15 years in formal education, to embrace into the work life and become independent as soon as possible.

The 87% of young Europeans desiring to move and work abroad at some point in their life is a testament to the founding principles of the EU, and a strong success we should credit to the European Institutions.

From several researches we have conducted in recent years, we have seen that this generation see remuneration as less of a priority when it comes to the ideal job. Whether young employees or young entrepreneurs, the opportunity to challenge ourselves, to innovate and to have an impact is higher on the agenda compared to monetary benefits.

We hope you have enjoyed reading this report, and for further information on our researches. Please visit our website, and remember, don't stop to ThinkYoung!



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#### **About ThinkYoung**

ThinkYoung is the first think tank that focuses on young people. It was founded in 2007 and has expanded to have offices in Brussels, Geneva, and Hong Kong.

We are a not for profit organisation, with the mission of making the world a better place for young people, by involving them in decision making processes and by providing decision makers with high quality researchers on the youth's conditions.

ThinkYoung carries out researches, surveys, documentary films and policy proposals focusing on five fields of action: entrepreneurship, education, EU enlargement, and environment.

For more information please visit: www.thinkyoung.eu

#### About Tata Consultancy Services (TCS) in Europe

TCS is considered a "big four" global IT Services Company, being ranked in the topmost tier of its industry in terms of market capitalisation, employees, profitability, brand value and customer satisfaction worldwide.

TCS operates multiple delivery centres in Europe and service clients through a network of offi ces in 21 countries across the region. TCS' European operations account for over 25% of its global revenues, with over 50,000 employees catering to 350+ active clients, including 44 of the FT Europe 100 companies.

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