Inspiring the Innovators of Tomorrow

Corporate Social Responsibility in Europe
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**About CA Technologies:**

CA Technologies (NASDAQ:CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business in every industry. From planning, to development, to management and security, CA is working with companies worldwide to change the way we live, transact, and communicate – across mobile, private and public cloud, distributed and mainframe environments.

Learn more at [www.ca.com](http://www.ca.com).
Executive Summary

Introduction from Marco Comastri, General Manager, EMEA, CA Technologies

At CA Technologies, our mission is to eliminate the barriers between ideas and outcomes – because we believe technology can help solve the world’s most pressing challenges. The exponential advance of technology brings tremendous potential to benefit and shape every area of society. From enabling people in the remotest parts of the world to access a quality education, to accelerating ground-breaking discoveries in scientific research, and taking productivity across every industry to a whole new level.

As technology advances, with it comes a vision of vibrant economies, underpinned by safe and secure societies. However, this vision of tomorrow can only be created through our actions of today – by investing in the next generation through a shared responsibility.

The corporate social responsibility agenda at CA Technologies aligns with the United Nations’ Global Sustainable Goals (SDGs), with a primary focus on quality education and gender equality. These are core to our commitment around diversity and science, technology, engineering and maths (STEM). Addressing the STEM skills gap and gender imbalance is a critical hurdle we must overcome to achieve sustainable growth in a fast-paced digital world. Indeed, this lack of digital skills is a persistent problem in Europe today, with 44% of adult Europeans not having basic digital skills\(^1\) – despite the fact that digital skills are now needed in almost all jobs.

In Europe recently, the European Pillar of Social Rights was announced, which focuses on employment and social aspects to ensure Europe is fit for the challenges of the 21st century. Education, lifelong learning and gender equality are within the 20 principles highlighted as essential to building a more inclusive and sustainable growth model, and improving Europe’s competitiveness. The technology industry is in a position to demonstrate leadership towards achieving this transformative vision. Through technology, complex problems are solved to drive economic growth and job creation.

What used to be science fiction is quickly becoming science fact. We are living in the fourth industrial revolution – technology is changing every aspect of the way we live. Business models are having to be rewritten as emerging technologies like artificial intelligence, virtual reality, machine learning and the internet of things disrupt the world. Every company today must digitally transform to stay relevant and competitive – and that means fostering innovation. We’re seeing this shift across all industries: there is Uber, which owns no cars, for example, Facebook, which owns no content, and Airbnb, which owns no real estate.

While technology enables innovation, skills are the new currency.

In Europe, CA Technologies employs a diverse and talented workforce of more than 2,000 staff across 25 markets, with a research and development site in Prague employing more than 350 software developers. Our employees are role models, and we believe that business must play its part in addressing the chronic skills gap and inspiring young people, especially girls, to consider future careers in STEM.

To stay economically competitive, we need more girls to pursue STEM. Closing the gender gap in STEM could lead to an improvement in EU GDP of €610 - €820 billion in 2050\(^2\).

\(^1\) ICT for Work: Digital Skills in the Workplace report, European Commission (2017)
\(^2\) Economic Benefits of Gender Equality in the EU report, European Institute of Gender Equality
Growing research suggests unconscious biases and gender stereotyping impact decision making, from the classroom all the way to the boardroom.

As part of our efforts to create an inclusive work environment and encourage self-awareness, CA Technologies has rolled out unconscious bias training opportunities to all employees in Europe. Empowering women and girls is key to building sustainable business.

In 2015, we launched Create Tomorrow, our CSR programme in Europe designed to get more young people excited about STEM careers – and to tackle the gender imbalance. Create Tomorrow is underpinned by the Company’s pledge to the European Commission’s Digital Skills and Jobs Coalition, and is built in partnership with education stakeholders and not for profit organisations across Europe. The programme is led by our employees, known as our STEM Ambassadors, who volunteer their time to deliver hands-on workshops and activities that show school students what it’s like to work in STEM and the connections between studies and career opportunities.

Last year we reached a milestone by connecting with more than 10,000 under-18 school students and over 600 school teachers in Europe through Create Tomorrow. With a focus on continuous improvement, there are more opportunities ahead of us to strengthen our impact in addressing the STEM skills gap, and in 2017 we worked with CSR Europe to develop a benchmark and assessment report for Create Tomorrow. The outcomes helped identify areas where our initiatives are having a quality impact in changing young people’s perceptions of STEM, and in addition areas where we can further enhance our efforts.

Create Tomorrow was recently highlighted by SiriusDecisions, a global research and advisory company, in a Select Best Practice case study, which showcased the strategic steps CA Technologies is taking to help grow the STEM talent pipeline in Europe. Sharing best practice amplifies the potential impact industry can have. It encourages sustainable and long-term change – which will only happen through committed multi-stakeholder partnerships.

For Europe to realise its full digital potential, the chronic STEM skills gap must be addressed collaboratively – industry, governments and education stakeholders working together. School teachers have significant influence in their students’ career choices, and therefore teacher placements in industry must be supported to become accessible and commonplace. Furthermore, including unconscious bias training in teachers’ professional development programmes, and within teacher training modules, will equip them with the skills to recognise and manage gender stereotyping in the classroom. Finally, preparing students for the future of work must start in the classroom. Nurturing and developing creative skills – which include problem solving and critical thinking – is essential to helping students reach their full potential in future careers.

Technology can drive economic growth, but this only possible with a skilled workforce empowered by societies that are built on equal opportunities. Achieving it will take dedicated collaboration between the key players – education, business and governments – to remove the barriers that exist today. Through multi-stakeholder partnerships we can secure a brighter future for this generation and the generation tomorrow.

Connect with Marco on LinkedIn and Twitter
CHAPTER 1

Create Tomorrow: Inspiring the Next Generation

10,000 students
since 2015, Create Tomorrow has reached 10,000 students

7,500
under-18 secondary school pupils

2,500
university students

600
school teachers

1,200
CA STEM Ambassadors
In 2015, CA Technologies launched Create Tomorrow, our CSR programme in Europe designed to get more young people excited about STEM careers – and to tackle the gender imbalance. Create Tomorrow is underpinned by the Company’s pledge to the European Commission’s Digital Skills and Jobs Coalition, and is built in partnership with multiple stakeholders across Europe.

Create Tomorrow aligns our efforts within a framework that targets specific audiences – from secondary school students who are preparing to choose their final subjects, to universities undertaking research to boost innovation in Europe, to stakeholders who play a vital role in influencing students’ motivation and interest in STEM subjects.

The programme is led by our employees, known as CA STEM Ambassadors, who volunteer their time to deliver interactive hands-on workshops and activities that show students what it’s like to work in STEM.

Our female STEM ambassadors are role models to young girls, and they are equipped to help them overcome the barriers of gender stereotyping.

Continuous development helps ensure Create Tomorrow stays relevant to its vision. Our STEM Assessment and Benchmark report by CSR Europe helps assess key impact areas where we are influencing young people’s choices about future careers in STEM, and identify opportunities to make further impact. In 2017, CA Technologies was ranked next to “best in class” for the overall quality of our STEM activities.
Create Tomorrow: Our Journey in 2017

Working in partnership with education stakeholders, corporate social responsibility organisations, governments and customers across Europe, CA Technologies is committed to inspiring the next generation of digital leaders through our actions and innovations.

**January 2017**

- CA Technologies becomes a founder partner of [STEM Alliance](#) to further develop relationships with schools and encourage innovative STEM teaching

- CA Technologies becomes a founder sponsor of [People Like Me digital program](#), introduced by the Wise campaign

- CA Technologies France delivers its second edition of Deploy Your Talents in partnership with Les Entreprises pour la Cite, and highlights the impacts of technology in our daily lives

- CA Technologies Italy supports [Programma il Futuro](#) in Milan for the second year to teach primary school students how to code

**February 2017**

- CA Technologies UKI hosts a [Step into STEM](#) event with Deutsche Bank, Mars and GSK to bring secondary school students closer to careers in STEM

- CA Technologies participates in the [Science2Society](#) research project, bringing together academia and industry collaboration to understand and improve innovation in Europe

- CA Technologies Germany delivers its second edition of Deploy Your Talents in Mainz and Darmstadt, in partnership with UPJ

- Working in partnership with Forética, CA Technologies Spain delivers its second edition of Deploy Your Talents in Madrid and Barcelona

- CA Technologies Italy hosts a press event and panel discussion on International Women’s Day to debate the [STEM gender gap](#) in Europe
April 2017

CA Czech Republic brings technology alive for secondary school students, using Lego to explain agile methodologies and share insights into what it’s like to work in technology.

The Municipality of Milan hosts a Girls in ICT Day event as part of its #STEMintheCity initiative, and CA Technologies Italy is invited to talk about how industry can address the gender imbalance in STEM.

May 2017

CA Technologies launches its STEM Ambassador programme in Europe to recognise and celebrate employee volunteers.

CA Technologies Italy extends its partnership with Common Goods, which aims to prepare young people for the world of work through education and business collaboration.

CA Technologies UKI hosts its first People Like Me Parents and Daughters STEM event.

June 2017

CA Technologies France joins leading businesses for a digital coaching and employment session to give secondary school students insight into the digital economy and the jobs in demand.

CA Technologies joins policymakers and business execs at the Digital Assembly in Malta to discuss the skills needed for digital transformation in Europe.

Female STEM ambassadors from CA Technologies across Europe are trained to deliver the People Like Me campaign in their countries.

Barclays, ASOS and Amazon Web Services join CA Technologies UKI to host a ‘Girls Can Create Tomorrow’ STEM event with secondary school female students.

For the fourth year, CA Technologies Germany sponsors the Deutschlandstipendium, an initiative of the German government, to support top talent at the Technical University of Darmstadt.

STEM Alliance MOOC for school teachers launches, and CA Technologies contributes content about careers in STEM and the value of role models.

September 2017

CSR Europe completes STEM Assessment and Benchmark report for CA Technologies to assess key impact areas and opportunities where we can make further impact in influencing young people’s choices about future careers in STEM.
October 2017

CA Technologies Italy joins leading companies at the ScopriTalenti event to give students from technical and scientific schools and universities guidance on preparing for the world of work.

CA Technologies Germany delivers its second edition of Deploy Your Talents in Cologne and Düsseldorf, in partnership with UPJ.

November 2017

SiriusDecisions

SiriusDecisions, a global research and advisory company, features CA Technologies in a Select Best Practice case study, showcasing the strategic steps we are taking to help grow STEM talent pipeline in Europe.

CA Technologies Italy completes its first edition of Deploy Your Talents in Rome in partnership with Sodalitas.

December 2017

CA Technologies delivers keynote at the STEM Alliance High-Level Event in Brussels, and calls for multi-stakeholder collaboration to address the STEM skills gap and gender imbalance in Europe.

Working in partnership with Forética, CA Technologies Spain runs its third edition of Deploy Your Talents in Spain.

CA Technologies UKI brings software, Lego and school students together to programme and race robots in a Lego Mindstorms activity run in partnership with Learning to Work.

CA Code Week in Prague sees students spend a week with CA Technologies software engineers for a hands-on experience to learn how software is rewriting the future.

CA Technologies Italy supports Programma il Futuro in Rome for the second year, where CA STEM Ambassadors teach primary school students how to code.

Secondary school students spend time in the CA Technologies Prague office to learn about STEM careers.

Follow our stories on Twitter #CreateTomorrow
CHAPTER 2

The STEM Skills Gap: Making the Connections

School students visit CA Technologies France in the second part of Deploy Your Talents, March 2017.
The Barriers: Why Students Lose Interest in STEM

Motivating young people’s interest in STEM education and careers is a multi-layered process – and a crucial starting point is at school. Research tells us that young people's engagement in STEM subjects tends to decline between the ages of 11 and 14, typically when they start secondary school.

To tackle this issue, all stakeholders need to act on many different fronts. Together – education, industry and government – we need to do more than just stimulate children’s interest in STEM subjects. We need to help young people understand how applying STEM subjects, together with students' own competencies and imagination, can help shape the world. They need to believe in their own power to create and to innovate.

Through Create Tomorrow, our activities focus mainly on secondary school students. In most European school curricula, this is the age range when students start to choose the subjects they may want to study further in the future. This is an important time to help enhance young people’s perceptions about STEM, especially for girls.

STEM SUBJECTS ARE DIFFICULT
Many young people still see STEM subjects as difficult, unattractive and unrewarding.

PERCEPTION OF STEM CAREERS
There is a lack of understanding of career prospects and the significant socioeconomic impact they can have. Often, STEM subjects and careers are labelled as “geeky” or for “nerds”.

HOW STEM SUBJECTS ARE TAUGHT
Teaching students about the various real-life applications of STEM helps them determine if it's an ideal career choice to study. STEM teaching is often dominated by a theoretical approach, instead of through more practical and experiential learning.

GENDER STEREOTYPING
Gender stereotyping and bias behaviours around STEM are common in the classroom, and many young people think STEM subjects are more suited to boys than girls.

“Europe needs a skilled population, competent in STEM – not only for driving economic prosperity, competitiveness and growth, but for having a science and technology-literate society.”

– Michael Teutsch, Head of Unit Schools and Educators; Multilingualism, Directorate General Education and Culture, European Commission

For Europe to stay at the forefront of innovation and economic growth, the STEM skills gap needs to be addressed. By 2025, it is expected there will be 8.2 million new STEM jobs in Europe. Today, there are not enough graduates to meet the predicted demand – and research suggests the situation may not improve as schoolchildren become less likely to pursue STEM subjects the older they get. The situation is further exacerbated by the gender imbalance as women remain a minority in STEM-related careers.

STEM education fuels the knowledge, attitudes, skills and behaviours that underpin inclusive and sustainable societies, and with education integral to the 2030 Agenda for Sustainable Development, STEM education – together with gender equality – are catalysts towards achieving all the other sustainable development goals.
Removing the Barriers: Connecting Students to STEM

Our flagship programmes as part of Create Tomorrow, like Deploy Your Talents driven by CSR Europe, Step into STEM in the UK, Lego MINDSTORMS events and Programma Il Futuro, all aim to connect students with the real-world of STEM.

“Too many jobs remain vacant today because of a lack of skills, and the gender stereotypes are still strong. Our partnership with CA Technologies to deliver Deploy Your Talents is significant in helping to disseminate a STEM culture in Italian schools.”

– Carlo Antonio Pescetti, Managing Director Fondazione Sodalitas

Now in our fifth year of running Deploy Your Talents in Italy, and the third year delivering it in Germany, Spain and France, the programme brings students into organisations to make them aware of the value of STEM subjects and careers. At CA Technologies, our STEM ambassadors visit students at local secondary schools taking part in the programme, and talk to them about the role of software in today’s digital world and how it’s transforming and improving our lives. Students then get the chance to spend a day at our offices to learn how the various departments operate, and the different types of jobs within a global software company.

“Deploy Your Talents keeps us connected with the younger generation’s mindset. We can then guide them in taking the steps needed to enter exciting STEM careers – jobs that will ultimately build the future.”

– Emilia Dos Santos Antunes Bastien, Director Support, CA Technologies France

Carlo Antonio Pescetti, Managing Director Fondazione Sodalitas, which partners with CA Technologies Italy to deliver Deploy Your Talents, said the efforts by leading companies that support Deploy Your Talents in guiding students towards the technical-scientific professions was crucial, both in terms of jobs and equal opportunities.
“The Deploy Your Talents program has been a great success in Spain. Our team loves the opportunity to share their career story with the participating students and the program clearly has a positive impact. This is a great way for us to give something back and make an investment in future generations. It is also a lot of fun!”

– Christian Lewis, Country Manager, CA Technologies Iberia

Collaborating with our customers and partners not only builds greater awareness of the STEM skills gap, but gives students a varied inside view of the many types of jobs in STEM, and how they relate to the world.

In the UK, CA Technologies hosted its annual Step into STEM event together with Deutsche Bank, GSK, Mars and non-profit partner Learning to Work. Schoolchildren from local secondary schools participated in a full day of interactive workshops, from coding to artificial intelligence and engineering, designed to inspire them about the expanse of exciting STEM careers. A popular session was speed-networking, where students spoke to a wide range of employees about how they started their careers in STEM – and what they enjoyed most about their jobs.

Today, the world is being written by software, and as technology moves forward, coding is fast becoming an essential universal language in the workplace. Teaching digital literacy skills in schools is key – and on this basis CA Technologies joined the Programma Il Futuro (Programming the Future) in 2015 to deliver classroom lessons to schools in Milan and Rome to teach students how to code. Now in our third year, CA STEM Ambassadors work with several schools to run a set of ten coding lessons with each school.

“IT is the branch of science that underpins the digital society. It is essential for kids to start learning IT right from primary school because it allows them to develop the skills they need to play an active role in the digital economy. IT is also a decisive factor in a country’s growth.”

– Professor Enrico Nardelli of Rome Tor Vergata University, coordinator of Programma il Futuro
Removing the Barriers: STEM Teaching

Teachers are one of the most important influencers on a student’s subject and career choice, and inspirational teaching has been identified as a key barrier in encouraging students to become and remain engaged in STEM subjects. Exposing teachers to the workplace and providing opportunities for them to spend time in businesses is a step towards helping them understand the careers within STEM. This real-world experience also enables teachers to enrich their teaching by being better positioned to provide guidance to students about careers and how STEM subjects are applied outside the classroom.

Yves Beernaert, Education expert at Educonsult, who has been involved in initiating teacher placements in Europe, said they have a clear impact on the quality of the teaching of STEM subjects. “Teacher placements undoubtedly have an impact on the quality of the learning outcomes achieved by the youngsters and on their motivation and interest for STEM subjects. It allows the teacher to focus more clearly on STEM competences and skills in general – and 21st century competences in particular.”

Through our partnership with STEM Alliance and local education partners, CA Technologies is working to build relationships with school teachers. In 2017, we provided content to support the STEM Alliance’s Massive Online Course (MOOC) titled “Opening Minds to STEM” for primary and secondary school teachers in Europe. Our software engineers spoke about their jobs and how they got into their careers, our HR team discussed challenges around gender stereotyping and societal bias’ towards women in STEM careers, and we hosted a live webinar with school teachers to discuss the benefits of school and industry collaboration to enhance inspirational STEM teaching.

“We need motivated, properly trained, well-equipped STEM teachers to prepare and inspire Europe’s next generation – and collaboration between schools and industry is an essential step towards achieving this.”

– Marc Durando, Executive Director of European Schoolnet, a network of 31 European Ministries of Education
The importance of school and industry collaboration to promote inspirational STEM teaching is emphasised by Marc Durando, Executive Director of European Schoolnet, who said collaboration between teachers and industry makes teachers more aware of current role models in the field of STEM, as well as study paths and careers. “Through these connections, we can raise young peoples’ awareness of the skills needed to pursue careers in STEM. STEM Alliance is very pleased to have CA Technologies onboard as a founding partner to help bridge this gap,” said Marc.

Removing the Barriers: Multi-Stakeholder Collaboration

CA Technologies recognises that multi-stakeholder relationships between educators, industry and government are the way forward to drive young people’s motivation and interest in STEM. Collectively, we must break down gender stereotypes, make STEM subjects fun, and provide role models who are key in helping girls imagine themselves in these exciting and game-changing roles. The first step towards achieving this is to recognise and acknowledge our unconscious bias, which we all have.

Being aware of and managing our unconscious biases will help us move forward to effectively address gender stereotyping from the classroom to boardroom, improve perceptions of STEM subjects and enhance understanding of STEM careers.

“Transforming young people’s attitudes to STEM is a long-term project. It is through multi-stakeholder collaboration – between education, industry and government, that we will reach our common goal. We must develop students’ skills and competencies to enable them to be continuous learners, creative problem solvers and the digital innovators who will take Europe forward as a major player in the global economy.”

– Sarah Atkinson, Vice President, Communications, CA Technologies, delivers a keynote at the STEM Alliance High Level Event in December 2017
CHAPTER 3

The Gender Gap: From Classroom to Boardroom

Only 17 women have won a Nobel Prize in physics, chemistry or medicine since Marie Curie in 1903, compared to 572 men.

Source - UNESCO
The largest gender gaps in education are found in STEM studies, and in most European countries the proportion of females going on to pursue a career in STEM is still alarmingly low. Various studies show that closing the gender gap in STEM will have a positive impact on economic growth and could lead to an additional 1.2 million jobs in Europe. Additionally, the European Institute for Gender Equality has revealed it could lead to an improvement in GDP by €610-820 billion in 2050.

Key stats on the gender gap:

In most European countries, women are significantly under-represented in ICT – with very few studying it and then moving into related fields

- Globally, women account for just 3% of ICT graduates
- In Europe, only 29 out of 1,000 female graduates have a degree in computing in 2015, and only four go on to have ICT careers
- Today, only 28% of the world’s researchers are women

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4 Economic Benefits of Gender Equality - study by the European Institute for Gender Equality
5 Economic Benefits of Gender Equality - study by the European Institute for Gender Equality
6 European Union: Women in Digital
Engaging Girls in STEM

Biases and gender stereotyping play a big part in widening the gender gap in STEM, and these are common from the classroom to the boardroom. Key influences come from family and peers, the education environment, media and cultural beliefs. And the impact is that girls appear to lose interest in STEM subjects with age, particularly between early and late adolescence.

At CA Technologies, we are taking active steps to help remove gender stereotypes in education, raise awareness and understanding of STEM subjects to girls and women through role models and provide real-life insights into STEM careers.

“Our female role models enable young girls to imagine what it is like to work in stem.”
– Silke Jung, Senior People Business Partner, CA Technologies

Ecological framework of factors influencing girls’ and women’s participation, achievement and progression in STEM studies:

Source: Unesco, Ecological Framework of Factors Influencing Girls’ and Women’s Participation, Achievement and Progression in STEM Studies
Understanding STEM Careers: Female Role Models

We believe that female role models can enhance girls’ confidence and motivation to improve their understanding of STEM careers. In response, CA Technologies became a founding sponsor of ‘People Like Me’ Goes Digital in 2017. Created by the WISE campaign, People Like Me is designed to attract more girls into STEM subjects and careers. The programme uses the natural tendency of girls to articulate their self-identity using adjectives, and works to show them that people like them are happy and successful working in careers in STEM.

Girls Can Create Tomorrow event hosted by CA Technologies UKI together with Barclays, Amazon Web Services and ASOS, September 2017

To help girls learn more about careers in STEM and engage with female role models, CA Technologies UKI, together with employees from ASOS, Barclays and Amazon Web Services, joined forces to deliver Girls Can Create Tomorrow. Scores of secondary school female students from local schools were welcomed to the full-day event by Otto Berkes, chief technology officer, CA Technologies, before taking part in interactive workshops followed by a People Like Me session. CA Technologies also ran a coding workshop using BBC Microbits, where students learnt basic coding skills in Python.

“We believe in inspiring the next generation of technical minds. Collaborating with CA Technologies on the Girls Can Create Tomorrow event provided us with a brilliant opportunity to help the girls understand the role that technology can play in creating amazing customer experiences, as well as seeing that they too can have a fulfilling career in tech.”

– Winnie Awa, Platform Lead - Customer Experience, ASOS
Raising Awareness in Society

To raise awareness of the lack of girls in STEM studies alongside the under-representation of women in the technology industry, CA Technologies Italy together with CSR partner Fondazione Sodalitas and analyst company NetConsulting cube, hosted a press event and panel discussion in Milan on International Women’s Day. At the event, results from a study were released titled Women and Digital Transformation: a Winning Combination, which revealed future job opportunities in the app economy – and highlighted the urgent need for more women to be active in ICT.

“For companies today, the ability to cultivate and attract STEM talent is vital to compete in the increasingly digital economy. But the research shows that there is a huge gap between supply and demand, and the scarcity of women threatens the capacity to innovate. That is why it is our priority to take part in initiatives that give young people a clear idea about future STEM careers, and encourage girls to enter these fields.”

– Daniela Avignolo, People Business Partner, CA Technologies Italy

Removing the Boardroom Barriers

Even if young women do manage to overcome these initial barriers, and excel in STEM subjects, they are often daunted by the prospect of being the only girl pursuing a STEM career, as well as by the possibility of workplace barriers. Globally, and across industry, the number of women on corporate boards has risen to 12%. It has been found, that companies with at least one woman board member perform 10% better than companies without women board members.

A diverse workforce is crucial to innovation, and it is only by working together that businesses can drive meaningful change in the technology industry. At CA Technologies, we are committed to attracting, retaining and developing diverse talent, and having recently become a founding signatory of the Tech Talent Charter strengthens our commitment to address the gender imbalance in the technology industry.

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7 Infographic is in Italian
8 The Sustainable Development Goals (SDGs): The Value for Europe
CHAPTER 4

Skills for a Future-proof Europe

It’s a fact: digital skills are now needed for most jobs. They are paving the way for future societies, and as technology reshapes our world and disrupts how we live and the way we work, the demand for specialist ICT skills is increasing fast.
Bringing Digital Skills to School Students

Through Create Tomorrow, we work with school students to raise their awareness of the different skills needed in the fast-changing technology industry. Each year at our R&D site in Prague, software engineers run a week-long CA Code Week for local secondary school students who are put in the driver’s seat to gain hands-on experience and understand what it’s like to work as a software engineer. Within the week they complete a real-life project, and learn various technical and non-technical programming activities around software development.

Feedback from students who took part in our 2017 CA Code Week revealed that 80% were now considering a future career in IT.

“Digitalisation, ICT, innovation and connectivity are key enablers for sustainable change. They facilitate optimisation, efficiency gains, new ways of interacting with each other, access to information and new business models.”

– Stefan Crets, Executive Director at CSR Europe
Bridging the Gap with Universities

Education systems have not kept pace with the changing nature of work, resulting in many employers saying they cannot find enough workers with the skills they need - especially in STEM roles. According to a report by McKinsey, 40% of employers said a lack of skills was the main reason for entry-level vacancies, and 60% said new graduates were not adequately prepared for the world of work. Employers often find graduates from STEM fields lack the problem-solving and communication skills necessary in modern business.

Through our partnerships with universities in Europe, we are working to equip young people with the practical, real-world skills to support them as they enter future employment. These employability skills range from communication skills to creative thinking and critical problem solving that will enable them to apply their STEM skills effectively in business – and guide them in becoming lifelong learners so they can thrive in a digital environment.

"Working in close collaboration with École polytechnique fédérale de Lausanne and Haute Ecole d'Ingénierie et de Gestion du Canton de Vaud in Switzerland, CA Technologies is bringing real life business views and experiences into the development of future Bachelor and Master students, as well as supporting start-up companies under the umbrella of innovation programs at the universities."

– Bjarne Rasmussen, Vice President, Customer Success, CA Technologies

Through our relationship with the Tech Partnership, a sector skills council for business and information technology, CA Technologies worked alongside leading UK businesses, together with the Tech Partnership, to develop the IT Management for Business (ITMB) degree, which is a mix of practical technology and business, combined with real employer involvement. The course is delivered to 20 universities in the UK, and in 2017 87% of ITMB graduates received a First Class or 2.1 degree.

Since 2005, CA Technologies Czech Republic has supported the Czech Technical University’s computer science curriculum within the Faculty of Nuclear Sciences and Physical Engineering. Our involvement is oriented to mainframe technologies, rarely taught in other universities.

To further bring the real world of work to university students, in Italy CA Technologies supports the Polytechnic University of Milan through the Giovani&Impresa programme, a training course run by Fondazione Sodalitas. The aim of the course is to help students develop their personal aptitudes and marketable skills. As part of the course, Michele Lamartina, Country Manager, CA Technologies Italy (left), spoke to university students about the relationship between business and social responsibility. He explained our holistic approach to CSR in driving sustainability across the business – from building employee engagement, to saving energy and driving innovation across the world.
From nurturing university talent to championing those who are just starting out on their degrees, CA Technologies Germany is a sponsor of the Deutschlandstipendium, an initiative of the German government. It is designed to support top talent in universities, and this year CA Technologies will enter its fifth year in sponsoring three students who are studying STEM degrees at the Technical University of Darmstadt (TU Darmstadt). The government doubles the investment made by industry.

Since 2014, the research team based in Barcelona employs PhD candidates who for three years become an integral part of the research global team as they work on their thesis, in collaboration with Universitat Politècnica de Catalunya. These industrial doctorate programmes provide students with an opportunity that combines the university academic supervision with CA experts mentoring and business experience. In September 2017, the first student of this industrial doctorate program obtained his PhD in Crowdsourcing and User Profiling with cum laude distinction.

Our support to engage university students and graduates for the future of work doesn't stop here. In the UK, we run a one-year intern programme, where students from universities across the country join CA Technologies and work in various departments.

Bringing university students inside our organisation helps develop their employability skills while building their awareness of how a STEM company operates. To extend this across Europe, CA Technologies is working towards supporting the European Commission’s Digital Internship scheme, designed to address the digital skills gap in Europe by encouraging companies to offer cross-country internships, and give students the opportunity to learn crucial digital skills.
Whilst the impact of artificial intelligence, internet of things, and machine learning might cause concern around the future of how we live and work, the potential for positive advancement from these fast-evolving technologies is huge. With these technologies comes solutions to improve every area of our lives, and in turn develop stronger and more sustainable economies. From better managing natural resources and reducing our impact on the planet, to potentially eradicating poverty and disease – emerging technologies bring the solutions to some of our toughest challenges.

However, Europe needs the right skills to ensure we can fully harness this potential. And to achieve this, industry, education and government must work together to collectively address the skills gap, now more than ever.

Key facts about the digital economy:

- The Internet economy creates **five jobs** for every two ‘offline’ jobs lost
- The EU digital economy is growing at **12%** each year
- There are **7 million jobs** in the ICT sector in Europe
- It is estimated that half of productivity growth derives from investment in ICT

Source: Digital agenda for Europe: Rebooting Europe’s Economy
Sarah Atkinson, Vice President, Communications and Executive Sponsor for Gender Diversity at CA Technologies, EMEA. Sarah is Vice Chair of The Skills & Diversity Council and board member at techUK.

Europe's ability to innovate and advance is threatened by the skills gap. Bold moves need to be made to shift young people's perceptions of STEM subjects and prepare them with 21st century skills and competencies to thrive in a digital world. Furthermore, gender stereotyping must be tackled – empowering girls and women builds sustainable business. From classroom to boardroom, we all have an urgent responsibility to encourage more women to work and succeed in STEM-related careers.

As referenced by the World Economic Forum, can we afford to wait until 217 years to close the economic gender gap between men and women? There are strong economic arguments about why we should care and respond. McKinsey research shows that organisations are 15% more likely to perform better if they are gender diverse. Added to this, it has been found that companies with more than 30% women in management positions have seen a 25% increase in profit rates on average.

Through Create Tomorrow, we are nurturing a culture of diversity and inclusion both inside and outside CA Technologies to inspire girls to study STEM subjects and support the advancement of women in STEM. With diversity in our DNA, our aim is to help address the gender imbalance by building positive perceptions of women in STEM and encouraging the next generation of females to enter STEM related careers.

Thrive, our global diversity and inclusion programme, is led by employees to help build a culture that is all-inclusive. As part of Thrive, we have a dedicated Gender Employee Resource Group, tasked with driving a greater level of gender balance across our European business and tackling gender stereotyping in the industry. This group provides counsel to ensure CA Technologies has policies, procedures and facilities in place to attract and retain female talent within our business. Each of our programmes is centred on our strong female role models, who are important in breaking down gender stereotypes and encouraging young females to consider future careers in STEM. But what can be done earlier to avoid gender stereotyping?

In almost every society, gender stereotyping is influenced from an early age shaped by ideas passed on from parents, family members, peers and by media. Girls are often expected to play with dolls and crayons, and boys with cars and more technical toys. This begins at home and continues in the classroom, and then often the workplace. These behaviours develop strong misconceptions about STEM, and can lead to girls feeling less confident about their abilities to do STEM. These “social norms” are having a far deeper impact on girls and young women than we may realise. The Girlguiding organisation’s recent survey, Girls’ Attitudes Survey 2017, revealed the overwhelming message that girls and young women believe gender stereotypes are entrenched in all areas of their lives. From a young age, girls sense they face different expectations compared to boys and feel a pressure to adjust their behaviour accordingly.

Parents and teachers have the potential to be influential role models to eliminate gender stereotyping. Teachers often underestimate the significant role they could play in countering gender stereotypes in STEM. A crucial step towards making a positive impact as role models, is to understand our own bias’ – and CA Technologies has taken this forward by rolling out unconscious bias training session opportunities to all its employees in Europe.
To take this further, through our partnership with STEM Alliance, CA Technologies will introduce teacher placements in Europe this year, where our STEM ambassadors will deliver unconscious bias training sessions to help teachers identify and manage stereotyping in the classroom.

In September 2017, CA STEM Ambassadors across Europe were trained to deliver the People Like Me campaign. Delivering the People Like Me campaign has extended our reach to include parents. By running interactive workshops with parents and their daughters, we have opened a new channel to help change perceptions about STEM careers, and provide enriching volunteering experiences for our STEM Ambassadors who are trained to deliver the campaign. People Like Me will soon expand across Europe to be delivered in French, German, Spanish, Czech and Italian by our STEM Ambassadors.

Looking forward in 2018, our goal for Create Tomorrow is to reach 50,000 under-18 school students in Europe by 2020 – and through our role models, STEM ambassadors, and partnerships – continue to inspire them to consider future careers in STEM.

Addressing gender stereotyping is complex and multifaceted, and for substantial change to happen we should work collaboratively – education, governments and industry. Collectively we must break down gender stereotypes, make STEM subjects fun in the classroom and provide role models who are essential in helping girls imagine themselves in these exciting and game-changing roles.

By addressing these challenges through multi-stakeholder partnerships, we can all play a major role in driving a more sustainable, prosperous and inclusive society.

Connect with Sarah on LinkedIn and Twitter
CA Technologies (NASDAQ: CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business, in every industry. From planning to development to management and security, CA is working with companies worldwide to change the way we live, transact and communicate—across mobile, private and public cloud, distributed and mainframe environments.

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