



TESTIMONY OF JOSE H. VELASCO  
HEAD OF AUTISM AT WORK INITIATIVE IN THE UNITED STATES

SAP

HEARING ON

The Global Autism Challenge

Before the Subcommittee on Africa, Global Health, Global Human Rights, and International  
Organizations

Committee on Foreign Affairs

United States House of Representatives

July 24, 2014

#### Introduction

Chairman Smith, Ranking Member Bass and Members of the Subcommittee:

SAP would like to thank you for your leadership and for providing us the opportunity to share our views on autism and its global impact.

My name is Jose Velasco; I am responsible for the Autism at Work Initiative in the United States for SAP. SAP is a global leader in enterprise software with more than 67,000 employees providing business solutions for over 250,000 customers in more than 130 countries. SAP systems are at the core of large parts of global IT, powering more than 65% of the transactions that make up the world's gross domestic product (GDP).

Today I would like to share with you the SAP Autism at Work Initiative which in partnership with Specialisterne was launched globally in 2013 with the purpose of providing meaningful and rewarding employment opportunities for people in the autism spectrum in core areas of our business.

#### The Autism Challenge

It is estimated that 1 in 168 individuals is affected with Autism Spectrum Disorders (ASD) globally. These numbers are suspected to be higher as the ability to diagnose and address autism varies from country to country.

In the United States, according to the Centers for Disease Control, about 1 in 68 children is affected by Autism Spectrum Disorders. Autism affects boys more often than girls, with about 1 in 42 boys and about 1 in 189 girls.

According to a recent study carried out by the University of Pennsylvania, The London School of Economics and the Children's Hospital of Philadelphia, the lifetime cost of an



individual with autism with an intellectual disability averages \$2.4 million while the cost of a person with autism and without an intellectual disability approaches in average \$1.4 million. These costs go beyond education and therapy encompassing lost productivity of caregivers among other factors.

It is estimated that the total annual cost to the United States to care for those with autism is in the range of \$175 billion to \$196 billion; depending on the percentage of people with autism considered to have an intellectual disability (40% and 60% are figures that are typically estimated).

Various other studies point to an unemployment rate in the range of 70% to 80%.

### A Potential Opportunity

While the autism problem is significant and pervasive, reaching every corner of the world, SAP believes that there is a real opportunity to leverage the skills of people with autism in the workplace.

With one of the worst turnover rates of any industry, high tech could benefit from recruiting skilled employees who stay the course, as replacement costs in our industry can reach levels as high as 150% of the annual salary of a person being replaced.

According to Forbes, there are approximately 100,000 unfulfilled Science, Technology, Engineering and Math (STEM) jobs in the San Francisco Bay and New York areas alone. We at SAP have come across very qualified people who have more than adequate credentials to fill jobs in functions that range from HR to Engineering, but who are also in the autism spectrum, and for that reason have not been able to secure a job, often times unable to get past the first interview.

People with autism represent a significant source of talent in both vocational and professional areas. For employers to tap into this talent pool, it would be important to re-think talent acquisition processes that range from interview methods to retention practices.

### The SAP Autism at Work Initiative

In support of these views and in support of SAP's mission to help the world run better and improve people's lives, SAP in Partnership with Specialisterne, announced on May 21, 2013 the inception of the Global Autism at Work Initiative, a unique effort to train people with autism worldwide for employment into core functions of the company, including but not limited to software development and testing. SAP's objective is that by the year 2020, 1% of its workforce will be represented by people in the autism spectrum, roughly 650 positions, based on SAP's current global workforce of over 65,000 employees.

The Autism at Work Initiative is a fundamental paradigm shift on how SAP hires and retains the best possible talent. SAP is bending existing processes and creating new ones as needed to accommodate the employment of people in the autism spectrum.

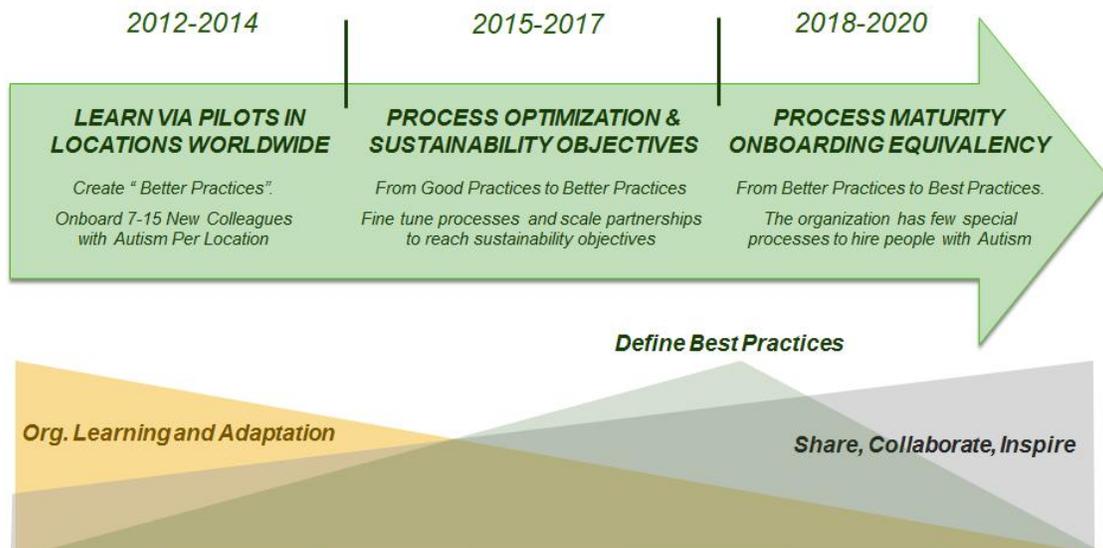


Since this announcement, SAP has successfully implemented pilot programs in India, Ireland, Germany, Canada, the United States, and is in the early planning stages of a pilot program in Brazil. SAP is currently evaluating the implementation of Autism at Work pilot programs in other locations that may include China, France, Bulgaria and South Africa.

The purpose of these pilots is to distill learnings from various locations resulting in the creation of global processes templates accommodating the local reality of places where we hire colleagues with autism. It is expected that by the end of 2014 SAP will count with approximately 55 colleagues with autism worldwide, and that by 2015 that number will increase to more than 150.

SAP's expectation is that by the year 2020, the company will reach onboarding equivalency in those locations where people with autism are hired. This means that the effort of hiring a person with autism will be little different than hiring anyone else.

An additional important objective of this initiative of SAP for this initiative is to share the experiences we have gained through this pilot with other companies and to hopefully inspire them to start their own autism at work initiatives.



SAP Autism at Work Roadmap

### SAP's Motivation

There is a rationale behind our efforts to employ people with autism at SAP. We at SAP firmly believe that a cornerstone element of innovation is the diversity of those who participate in the creative process and the perspectives they bring to the table. The relentless pace of innovation in the high tech industry is of key importance as obsolescence and irrelevancy can happen in very short time cycles.

Alan Kay, a renowned computer scientist, fellow of the American Academy of Arts and Sciences and the National Academy of Engineering, once said that a different perspective is



worth 80 IQ points. SAP believes in capturing the perspectives of those who look at the world differently, as it is only through those eyes that we will be able to invent richer and more rewarding solutions for our customers.

There is also a significant body of research that points to the affinity of people in the autism spectrum to science and arts. Hans Asperger, Viennese pediatrician after whom Asperger's syndrome was named once said: "It seems that for success in science or art a dash of autism is essential. For success, the necessary ingredients may be an ability to turn away from the everyday world, from the simple practical, an ability to rethink a subject with originality so as to create in new untrodden ways, with all abilities canalized into the one specialty".

According to Prof. Simon Baron-Cohen, a strong supporter of SAP's Autism at Work and head of the Autism Research Center at Cambridge University in the United Kingdom, there is strong evidence, under current accepted criteria, that Isaac Newton and Albert Einstein, among many luminaries, were in the autism spectrum. Albert Einstein had no friends in childhood, was late to speak, and when he spoke, he did so with echolalia, where he repeated back what he heard. These traits exhibited by Albert Einstein are all consistent with people in the autistic spectrum. Other personalities in the autism spectrum include Susan Boyle, winner of Britain's Got Talent, actors Daryl Hanna and Dan Aykroyd, as well as professor and author Dr. Temple Grandin.

While not everyone in the autism spectrum has the skills and abilities of some of these famous personalities, it is not uncommon to find unique talent within our communities who today are unemployed, partially employed or underemployed and who with some training can carry out functions spanning vocational and professional work.

#### Workplace Challenges for People with Autism

But while many people in the autism spectrum may have valuable abilities, it is the accompanying set of challenges associated with the condition that prevents them from pursuing and attaining rewarding employment. Among the principal challenges associated with the condition that we find are social interactions and communications. Reading social cues and dealing with ambiguity can be difficult for many people with autism.

Someone in the spectrum may interrupt a colleague at work who is visibly busy as he or she may not be able to read the other person's body language. And if asked "to be transparent", a person with autism may interpret this literally, as someone asking him or her to permit the uninterrupted passage of light through their bodies instead of interpreting the request as asking them to be open, candid or frank.

Some people with autism may also have hyper-sensitivity to sounds or light. As Dr. Stephen Shore, a Professor at Adelphi University who is in the autism spectrum shares: "those down lights in the ceiling feel like I am looking directly into a spotlight, they can be painful". Dr. Shore wears a baseball cap as a means to address his sensitivity to light. A person with



autism may also have other negatively perceived traits such as failure to look at other people in the eye, reduced ability to smile or not being able to offer a strong handshake.

The challenges for people in the autism spectrum start when they first arrive at a job interview, perhaps wearing a baseball cap, perhaps having a weak handshake, perhaps not smiling or not being able to make eye contact. These “interview killers” are the reason why many people who are otherwise qualified to do a job, are deemed not a good fit for an organization.

### In-spite of Autism and because-of Autism

Many people in the spectrum also exhibit narrow interests, rigid routines, low tolerance for mistakes and “fascination with object parts”, as children often times observing things like the wheels and pistons of a toy steam locomotive for hours.

These narrow interests, rigid routines and low tolerance for mistakes are also key traits of people who are good in science, technology, engineering and mathematics (STEM). This is where the traits start to blur between ability and disability, and where some innate characteristics of many people in the spectrum can be of high value in the workplace.

As a software company, SAP views the value that our new colleagues with autism bring to the table in two ways: “*in-spite*” of autism and “*because of*” autism.

- *In spite of autism* and the challenges associated with this condition, our new colleagues have arrived at our door displaying resilience, loyalty, dedication and a burning desire to work.
- *Because of autism*, we are able to capture the innate abilities that are often times associated with people in the autism spectrum. These abilities may not all be present in every individual but generally include a gifted memory, a natural ability to recognize patterns and deviations in systems, processes and data and/or the ability to concentrate and persevere on tasks over long periods of time while remaining attentive to very small details. We have also observed a very low tolerance for mistakes, an essential trait in any job but particularly important in technology related jobs.

In general we believe that there is a strong affinity between the natural ways of our colleagues in the spectrum and software development and IT. This affinity exists in great part due to the unambiguous, precise and predictable nature of the type of work we do.

### The Global Autism at Work Initiative Organization

The SAP Autism at Work initiative is spearheaded by the Global Diversity and Inclusion Office of SAP AE. The initiative counts with a global program office as well as country-specific leads.

As each location is faced with different opportunities and challenges, the Autism at Work initiative is a global effort with a central governance model, but providing sufficient execution flexibility to accommodate the local reality of each location.



## Global and Local Partnerships

Recognizing that SAP as a company is not an expert in autism, a global partnership was established with Specialisterne to implement the autism at work initiative. Specialisterne's experience and tenure in the field of training and procurement of opportunities for people in the spectrum and their employers, has been a great asset in SAP's Autism at Work journey.

Partnerships have also been established locally in the United States with the Department of Rehabilitation of the State of California (DOR) and The Office of Vocational Rehabilitation of the State of Pennsylvania (OVR). SAP has also partnered with The Arc of Philadelphia and Expandability, two non-profit service providers of OVR Pennsylvania and DOR California respectively. Specialisterne, as trusted advisor, has assisted with the implementation oversight of our end-to-end processes.

SAP has a strong partnership with the Ernie Els foundation and has partnered in the past with the Dan Marino Foundation.

SAP has also established partnerships with Universities such as Cambridge University in the United Kingdom, and is in the process of establishing partnerships with Universities in the United States. These partnerships range from academic/research purposes to sourcing programs for talent in the autism spectrum.

## The SAP Autism at Work Training Process in the United States

The SAP Autism at Work initiative in the United States was just kicked off in January 2014. As of May 2014, twelve individuals have been onboarded into permanent positions at SAP Labs in Palo Alto, CA and SAP America in Newtown, Square, PA.

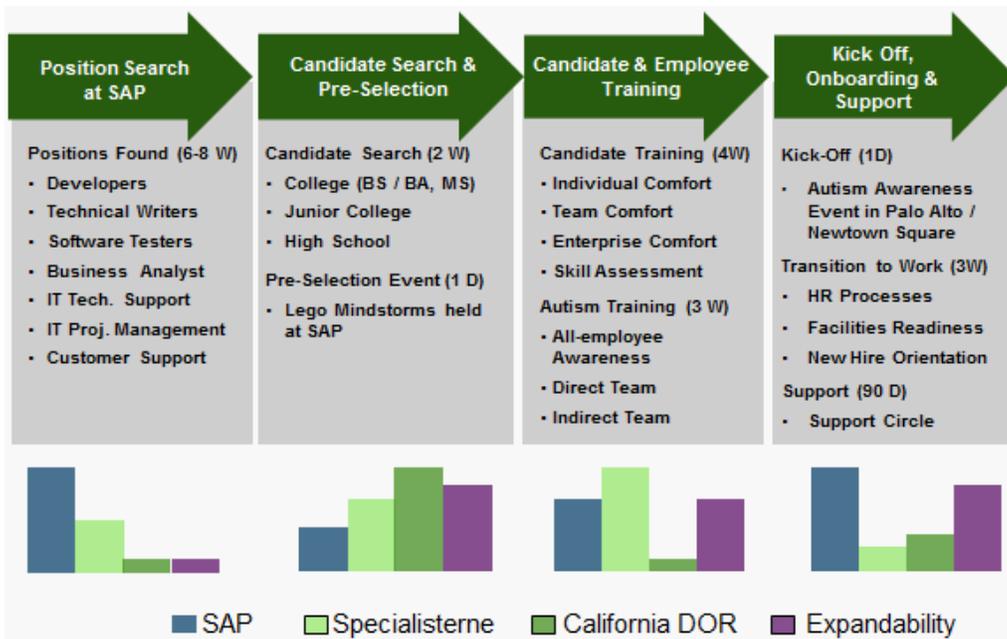
Upon exploring positions in various SAP departments that would be conducive for a pilot program, twelve full-time job opportunities have so far been identified spanning the following roles: software developers and testers, business analysts, technical writers, IT technical support staff, IT project manager and Customer Support associates. Each position has a career ladder at SAP with compensation packages and benefits similar to those of any other colleague in the company in similar positions and seniority.

Position descriptions were provided to DOR and OVR (in California and Pennsylvania respectively), who identified candidates with autism within their client base. These DOR/OVR candidates subsequently participated in a one-day pre-selection event held at SAP with participation of Specialisterne, Expandability and SAP.

This one day pre-selection event replaces traditional interview practices that typically consist of multiple interviews and where interviewer and interviewee seat in opposite sides of a table. SAP now utilizes Specialisterne's methodology consisting of a "Lego Hangout", where candidates are asked to spend a day at SAP "playing" with Lego Mindstorms. Candidates utilize Lego Kits to build robots based on a set of instructions. Throughout the day each candidate is asked to move go to a different area for a short conversation to learn



more about their interests and background. A Pizza lunch is served halfway through the day making this a fun-filled and relaxed event.



Autism at Work Pilot Program Process implemented in Palo Alto, California.

The Pennsylvania process is similar but delivered via local partnerships with OVR and The Arc.

At the end of the pre-selection event, the candidate list is narrowed down to those who will proceed to the next step in the process: candidate training.

Candidate and personnel training consists of a 4-week program that is funded by DOR and OVR respectively and hosted by SAP. The training was delivered utilizing Specialisterne methodology by the Arc and Expandability.

The main objective behind this training is to provide a soft transition to professional life via specialized modules addressing personal, team and enterprise comfort levels for the new candidates. It is during these four weeks of training that managers and team buddies start getting acquainted with the candidates participating via a number of activities that range from demonstrations to lunches to small assignments provided by the managers. Buddies are team members peers to our new colleagues who will work with them side-by-side.

It is also during this time period that SAP employees and managers are trained. Employees are segmented at a high level in three categories as depicted in the following chart and role-adequate training / support is provided.



	High-Interaction Employees Colleagues who regularly collaborate with new colleagues with ASD	Medium-Interaction Employees Colleagues who occasionally interact with new colleagues with ASD	Low-Interaction Employees Colleagues with no interaction with new colleagues with ASD
General Autism and AaW Awareness Session	90 Minutes	90 Minutes	90 Minutes
Autism Classroom Training	1/2 Day	1/4 Day	
On the Job Coaching (Team & Individual With ASD)	60-90 Days		

Coaching Need

- Direct Managers
- Direct Team Members
- HR Business Partners
- Security Staff
- Health Staff
- Cafeteria Staff
- Indirect Team Members
- Recruiters
- Field Employees
- Sr. Management

- Intensity of Interaction with ASD-Affected Colleagues
- Function-based specificity of information needed to interact with ASD-Affected employees

SAP Autism at Work Pilot Program Employee Training Strategy

### SAP Autism at Work Mentors

It is also during the 4-week training period that a call for volunteers takes place for “Autism at Work Mentors”. The Autism at Work Mentors are employees who typically have a strong affinity with the topic of autism, in many cases due to knowing a family member or friend who is in the autism spectrum.

Currently, SAP Autism at Work US has 28 Autism at Work Mentors.

### Backgrounds of our Candidates in the United States

Candidate’s educational backgrounds in the United States range from high school to junior college to college. Candidates range in age from early 20’s to late 40’s. Two female employees are part of the initial group in the United States. Most of our new colleagues were unemployed, partially employed or underemployed prior to joining SAP.

### Post-Onboarding Support in the United States

After candidates finish the 4-week training program and managers have provided approvals for employment to commence, candidates spend the next two+ weeks in administrative tasks filing applications and getting further acquainted with the company among other things.

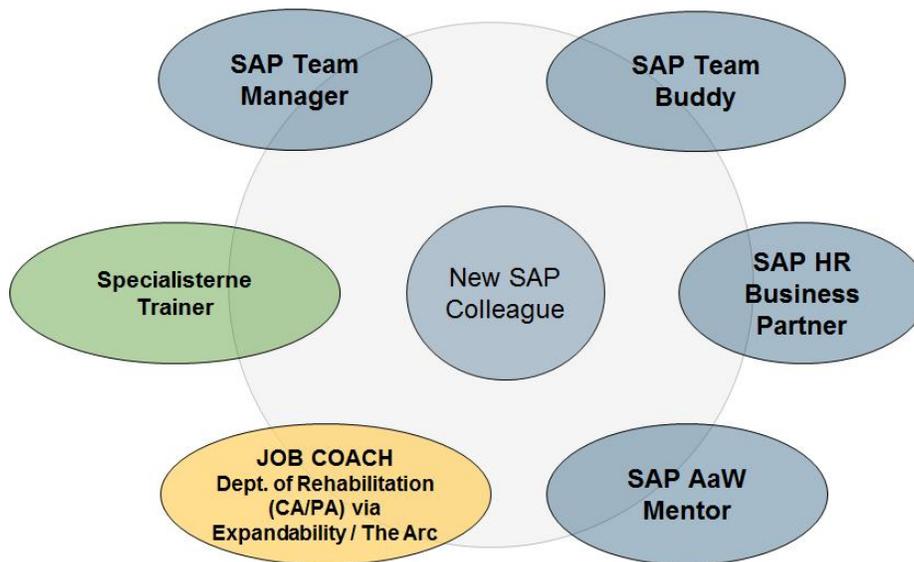
Once our new colleagues are fully onboarded into their respective teams, a support circle is finalized and implemented.

This support circle consists of six individuals.

- SAP Team Manager
- SAP Team Buddy

- SAP HR Business Partner
- SAP Autism at Work Mentor
- Job Coach from Expandability/The Arc funded by DOR/OVR respectively
- Specialisterne Trainer

Job Coaching and support is provided for the first 60-90 days of employment by Expandability and The Arc. Feedback from managers points to outstanding support delivered by Expandability and The Arc.



SAP Autism at Work Support Circle

### Life Skills

In some cases, our new colleagues may need assistance with skills that go beyond the work place. These "life skills" include transportation to-and-from work, food preparation, time management, and personal care and leisure activities among others.

Through The Arc and Expandability, our new employees with autism in the United States have benefited from coaching and advice that have allowed them to grow and become more independent.

### Early Results from SAP Autism at Work Pilots

- Early results from our autism pilots indicate that our new employees with autism are integrating well into their teams. Cohesiveness within teams has increased.



- While the processes that have been put in place to train and support our new colleagues and their teams are in a continuous improvement phase, feedback at this time is very encouraging across the board:
  - Janis Oberman, New Employee “I am a 56 year old woman who had prior experience in the IT industry. I had been unable to obtain full-time employment since I was laid off in 2001. However, I had kept my skills current though underpaid part-time work and a returned to graduate school. So, I am thrilled to get this opportunity to work for SAP as a QA specialist in a Business software development department. Also, the Specialisterne training (with the robots) was phenomenal and I’ve received more support than I could have hoped for. I was diagnosed with Asperger Syndrome as an adult, like most people my age, who could not have met the more restrictive criteria for Autism in the 1960’s. Additionally, no more SSDI!!! That saves the government \$21,959 per year (adjusted for inflation), totaling \$263,508 (for 12 years on SSDI).
  - Anonymous, New Employee “SAP has leveled the playing field by recognizing the communication and learning style of those that are on the autism spectrum. The habits previously seen as quirks are being recognized as a keen ability to pick up detail quickly to benefit our employer, SAP.”
  - Ben Shaibe, Team Buddy : “Since our new colleague joined our team as a software tester, my day has become brighter, my work more interesting and my feeling of purpose even greater”
  - Holger Graf, Hiring Manager: “We are very grateful for the opportunity to be part of this initiative. We have two new colleagues in our team; they are well on their way to being great contributors in the SAP Customer Support Organization”
  - Gunther Rothermel, SVP “We can certainly make a lot of progress as society if we dedicate more attention, research and energy to people with special needs, so that we can tap into their talents and abilities”

#### Early Recommendations to Other Potential Employers

- Partnering with Key Entities a key element of SAP’s success is the establishment of partnerships with non-profit and state/local government organizations.
- Executive Sponsorship and Grass-Roots Support: without these two elements it is difficult to implement a program.
- Crawl, Walk, Run: plan a multi-year approach. SAP recommends that companies carry out a pilot or pilots to learn, then work on streamlining processes and culture, and lastly, reach scale.



## Outlook

- SAP's mission "to help the world run work better and improve people's lives" continues to be the driver for the SAP Autism at Work Initiative.
- As planned, SAP will move into its process improvement phase in 2015 onboarding additional new colleagues with autism across locations worldwide.
- SAP wishes to inspire other companies to start their own Autism at Work programs and to collaborate to improve the availability of opportunities for people with autism

## Conclusions

Chairman Smith, Ranking Member Bass and Members of the Subcommittee:

The ultimate goal of diversity and the Autism at Work program is for SAP to attract the best possible talent. Companies that consciously look for people considered outliers in the workforce will be able to innovate and succeed.

We have a long journey ahead with many things to discover, but we feel confident that with the help of our partners, we will be able to continue to leverage the talents and abilities that people in the autism spectrum bring to the workplace.

SAP has been approached by more than 15 companies interested in understanding how our program was conceptualized and implemented. Our hope is that we will continue to inspire others to start their own Autism at Work programs and soon have more companies who can share their experiences.

On behalf of SAP's Diversity and Inclusion Office and the employees who have made this initiative possible, we would like to thank you once more for this opportunity to share our experience.

On behalf of many families like mine who are touched by autism, thank you for your leadership.

Thank you for your attention. I would be happy to answer any questions.