<table>
<thead>
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<th>World of Software Developers</th>
<th>World of Security Professionals</th>
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### World of Network Engineers
- **Automation**
  - Software-defined infrastructure programmability
- **Multi-Cloud**
  - New expectations for speed, scale, and security
- **AI/ML & Business Insights**
  - For increased performance, reliability, and security

### World of Software Developers
- **Application Economy**
  - Speed of development, shift from IT to LOB, cloud offers quick and easy
- **Internet of Things**
  - Connectivity increases value, edge computing and analytics
- **DevOps & Cloud**
  - Powerful developer tools, APIs and open source, CI/CD and DevOps are enablers

### World of Security Professionals
- **Threat Intelligence**
  - Actionable knowledge and insight into Adversaries on prem and in the cloud
- **Zero Trust**
  - Securing access for your workforce, workloads and workplace
- **DevSecOps**
  - Integrating security decisions and actions at the same scale and speed as development and operations

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**JOB MARKET TRENDS**
- Impact of Technology
- IT Skills Gap
- Underemployed
- Service & Complex Job Growth
- Emerging Skill Demands
- Human Skills
- Re-Skilling Needs
- Entrepreneurship
- CSR
- Diversity

**EDUCATION TRENDS**
- University Adaptation
- Faster Skill Obtainment
- Inclusion
- Personalized Learning
- Portfolio of Skills
- Competency-based Education
- Hands-on Makerspaces
- Virtual Reality
- Focus on STEM Interest
- MOOCs
- Mobile
- Student Debt

**FUTURE OF WORK TRENDS**
- Impact of Technology
- Workplace Expectations
- Fluid Workforce
- Use of Analytics
- Gig Economy
- Workplace Culture
- Collaboration
- Continuous Learning
- Flexible Work
What is the single most important thing that will influence more the future of work and the future of education in the next years?
Artificial Intelligence leveraging Exascale Computing or even Quantum Computing and using thousand of Exabyte of data?
One of the smallest computing system: single-stranded genomic RNA of approximately 30 Kb of length.

Digital Transformation
COVID-19 Pandemic Disruption

Digital Transformation

Digital Transformation
Digital Transformation

ICT Infrastructures transformation

New ICT Competencies

demands

accelerates

Transform

enable

enable
Programmable Infrastructure

- The business innovation needs to evolve and scale at software speed.
- Programmable infrastructure is the utilization of tools and methods from software development to enable enterprises to operate and dynamically adjust campus network (SD-Access), wide area network (SD-WAN), Data Center and cloud infrastructure by using programmable interfaces.
- It started in the Cloud and Data Center environment is expanding in every domain of ITC.
- Also indicated with the term “IaC” infrastructure as code.
Traditional ICT Infrastructure

Device

Network

Application
Traditional ICT Infrastructure

Device  Network  Application

Perimetral Security
The cloud revolution

Device

Network

SaaS

IaaS

PaaS: AI/ML

Private Cloud

Hybrid/Multi Cloud

Containers & Microservices

Serverless
Mobile, IoT & VR impact

BYOD
Mobile
WIFI 6/5G
IoT
Edge/Fog
AR/VR

End-to-End Security
Based on Identity and Data Analytics

In the meantime, on the device side…
All together now: a lot of pressure on the network

End-to-End Policy
Based on Identity and Data Analytics

BYOD
Mobile
WIFI 6/5G
IoT
Edge/Fog
AR/VR

SaaS
IaaS
PaaS: AI/ML
Private Cloud
Hybrid/Multi Cloud
Containers & Microservices
Serverless
Change in the business questions

01
I need to automate my infrastructure.

02
I need to connect and integrate my systems and need to have real time visibility on the status.

03
I need help to solve my business problems.
Change in the Competencies

Device
Desktop, BIOS, OS, RAM, CPU, Periferiche, Cavì, Desktop Applications, Antivirus,…

Network
Switch, Router, AP, TCP/IP, Configuration, Troubleshooting, CLI, Firewall, VPN,…

Application
Server, Servizi, WWW, DNS, DBMS, Directory, Domains, Patch, Users and Groups management,…
Software dev: Java, .Net,…

IT/Desktop Support
Networking Admin - Engineer
System Admin
Change in the Competencies

Cloud: IaaS/PaaS/SaaS
AI/ML
DevOps - DevsecOps
Continuous Integration/Continuous Deployment
APIs

Multidomain Integration - Automation – Assurance - Security
Business Outcomes

• Use of code and APIs to perform Operations at scale

• Use of code and APIs to replicate identical configuration in various part of the infrastructure and to roll-back the infrastructure to a previous accepted state if needed.

• Use of code and APIs to extract data analytics from the infrastructure and generate insights.

• Use of code and APIs to create automation workflow.

• Use of Machine Learning to recognize anomalies or to predict outages.
IT jobs of the future will require software & security skills

The IT Team of the Future

World of Network Engineers + World of Software Developers + World of Security Professional

Common interdisciplinary domain of programmable infrastructure
Certifications drive key skills for innovation and scale

- **90%** Of CEOs say their company is facing disruptive change driven by digital technologies
- **70%** Of CEOs say their company doesn’t have the skills to adapt
- **78%** Of technology execs/managers believe technical certifications are a critical success factor
Introducing Cisco’s new certification suite
Cisco Certifications

- Associate Level
- Specialist Level
- Professional Level
- Expert Level

Future Offering
Engineering
Software
Available on Netacad
PT For Network Automation
We aim to build together the new normal, that must be inclusive and prepare the workforce of the future.

- Equip students with career-ready skills for increased employment opportunities.
- Constantly innovate for engaging & immersive learning experiences.
We cannot predict the future, but we can get ready for it.

ICT Competencies are more important than ever.

Agility, Flexibility, Creativity

Re-design the digital world
Thank you