

DevOps competences for smart cities project

Prof. Panos FITSILIS
University of Thessaly



Co-funded by the
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Digital Cities Central Greece S.A.



Nicosia Development Agency



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FÜR MANAGEMENT
UNIVERSITY OF APPLIED
MANAGEMENT STUDIES

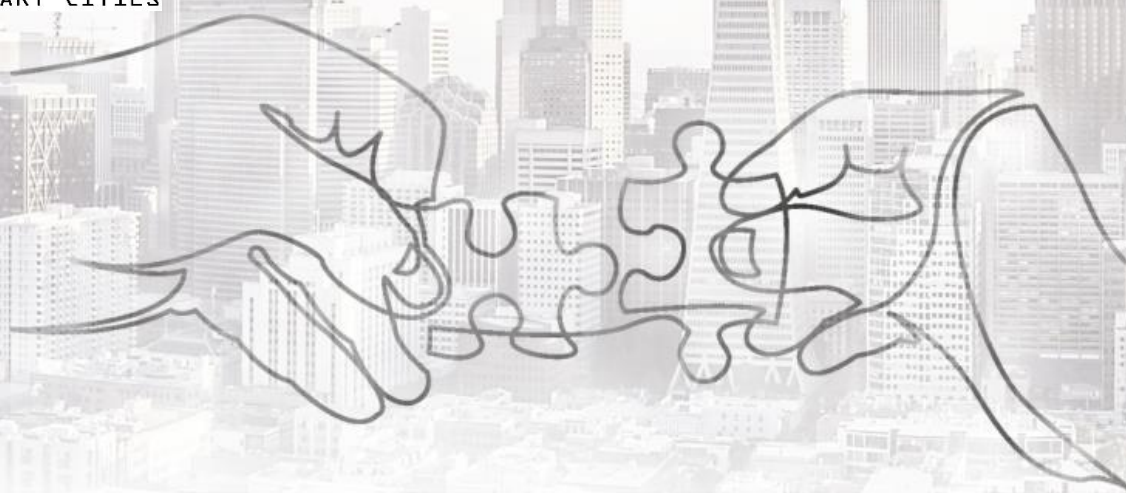


Bundesverband der Träger
beruflicher Bildung
(Bildungsverband) e.V.



DIGITAL TRANSFORMATION INSIGHT

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Key information

- Official name of the project: **DevOps competences for Smart Cities**
- Acronym: **DevOps**
- Funding Programme: Erasmus+ (European Commission)
- Starting date: 1 January 2019
- Ending date: 31 Dec 2021
- Duration: 36 months
- Project website: **devops.uth.gr**



Consortium members

UNIVERSITY
OF THESSALY -
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ELOT - GR

CITIESNET -
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UNIVERSITY
OF NICOSIA -
CY

CSF – IT

ANEL - CY,

SGI – IT

EVBB - BE

HDWM - DE

BBB – DE

ALL DIGITAL -
BE

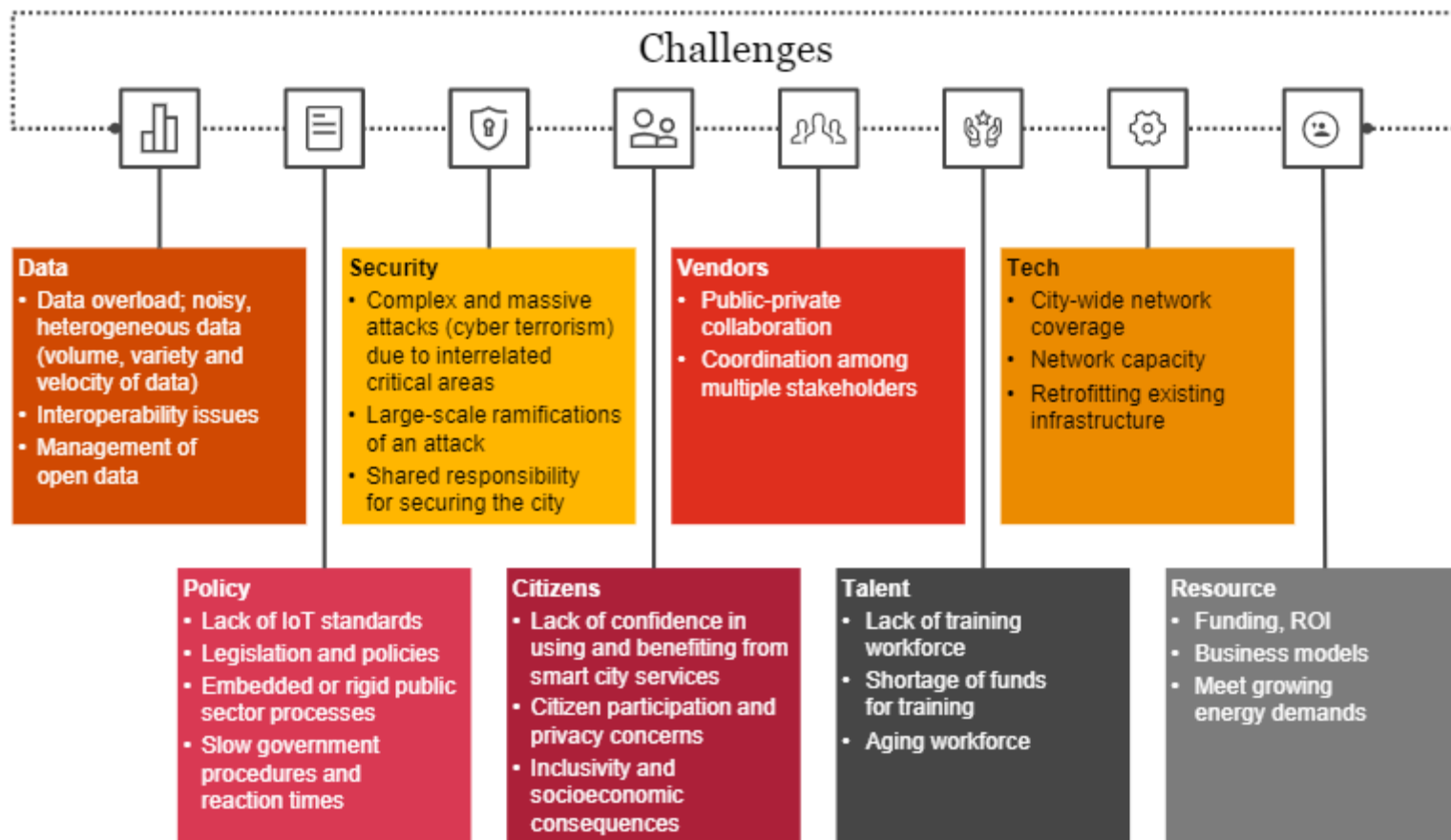
K-DIGITALE IT



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DEVOPS Smart cities development challenges

DEVOPS COMPETENCES FOR SMART CITIES



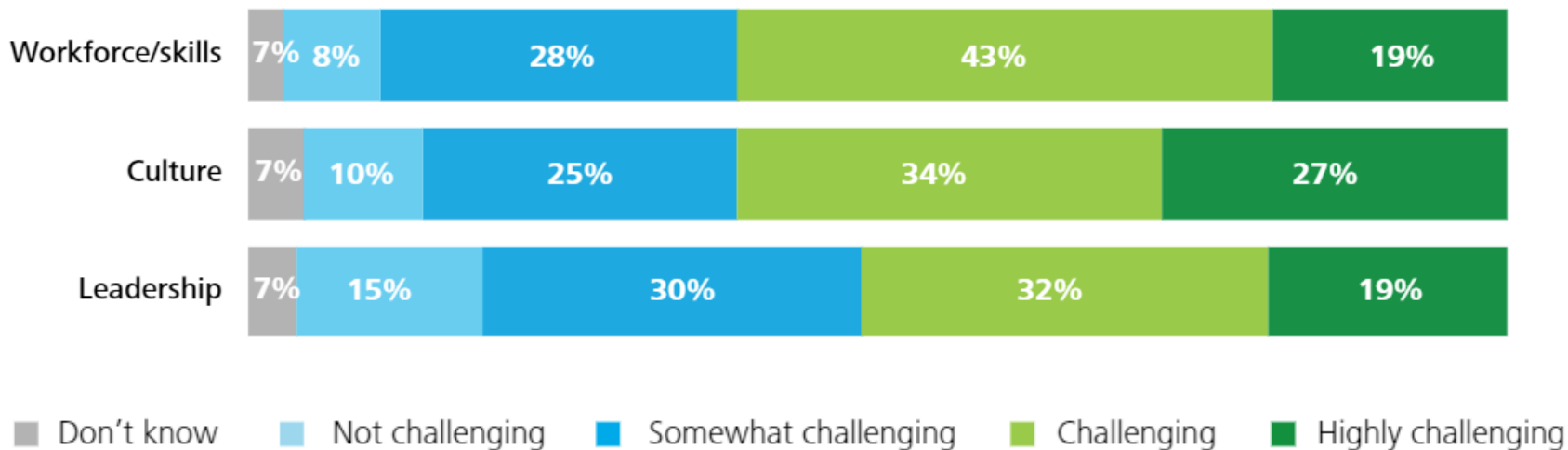
Source: PwC analysis, Technavio, Cisco, ITU, IEEE, Smart Cities Dive, GreenBiz



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DEVOPS Talent management is a challenge!

DEVOPS COMPETENCES FOR SMART CITIES



Among 1200 government officials from 70 countries

Source: *The journey to government's digital transformation*, Deloitte University Press



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Data are revealing

90 percent of organizations say that workforce issues are a challenging area to manage in their agency's digital transformation.

Only 34 percent say their organization has sufficient skills to execute its digital strategy.

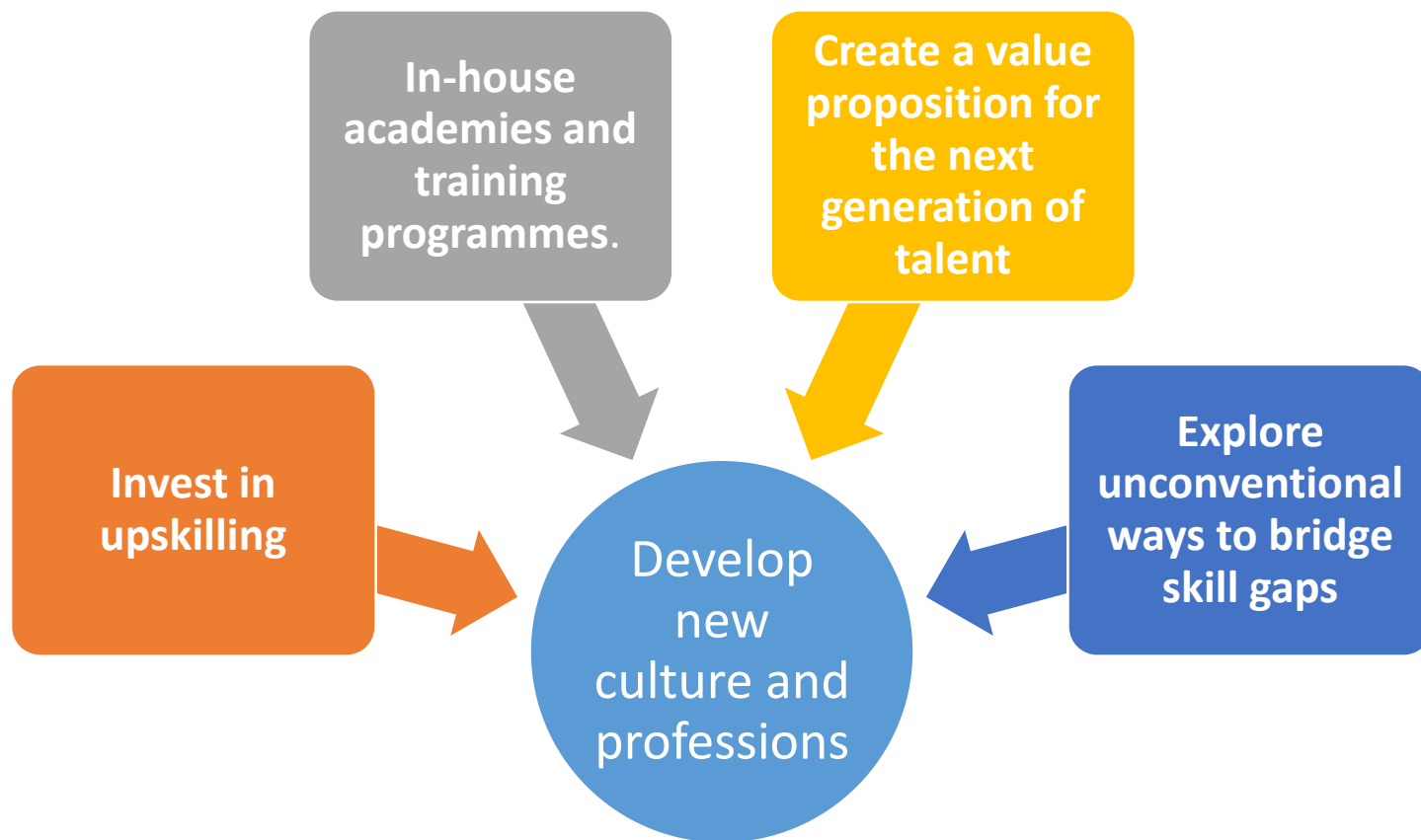
Only 33 percent say their organization provides the right resources or opportunities to obtain the digital skills they need.

Winning the “war” of talent

Only by attracting and retaining high-tech and creative talent can a Smart City exist.

These individuals are critical to the economic infrastructure's constant renewal through creative destruction and innovation. They serve as the foundation for new projects, start-ups, and an environment conducive to innovation.

As traditional jobs become obsolete, talent is expected to act as a catalyst in the development of new ones.





Aims and objectives

Identify

Identify Europe-wide emerging job profiles for smart cities DevOps professionals.

Design

Design of training modules,

Develop

Develop curriculum for these profiles

Provide

Provide pilot training

Develop

Develop a community of practice for smart city training needs

1

Defining new roles for
cities employees

2

Defining new knowledge
areas, skills,
competences

Three new professions

SC Planner

SC IT head

SC IT staff

- A Smart City Planner can be defined as a high-level official that is able to bridge the needs that arise from:
 - Cities traditional development and operational needs
 - Smart and sustainable cities frameworks, best practices, standards and technologies
 - Strategic priorities of the city's political leadership.

SC IT head

- A SC IT can be defined as an ICT Consultant with responsibilities that include:
 - Setting objectives and strategies for the IT department of the municipalities
 - Deciding on and implementing suitable technology to organize all internal operations and help optimize their strategic benefits
 - Designing and customizing the IT systems, frameworks and platforms to improve citizen experience
 - Plan the implementation of new systems and provide guidance to IT professionals and other staff within the organization
 - Decide on procurement of technological equipment and software and establish partnerships with IT providers
 - Manage the technological infrastructure (networks and computer systems) in the smart city to ensure the performance
 - Manage IT-related projects

SC IT officer

- A SC IT officer are IT technical experts that should be able to:
 - Analyse cities' organizational data
 - Determine information system requirements and defining project objectives
 - Use software development process, development environments, tools and techniques
 - Make recommendations, for necessary IT system components e.g. hardware, software and systems
 - Design, implement, deploy, new IT services
 - Operate IT systems and services
 - Provide support and training to various types of users
- Apart from technical skills and experience, he/she must have transversal skills such as teamworking, social skills, ability to learn, etc.

DevOps Curriculum - Competences groups

Transversal (16)

General IT Knowledge (9)

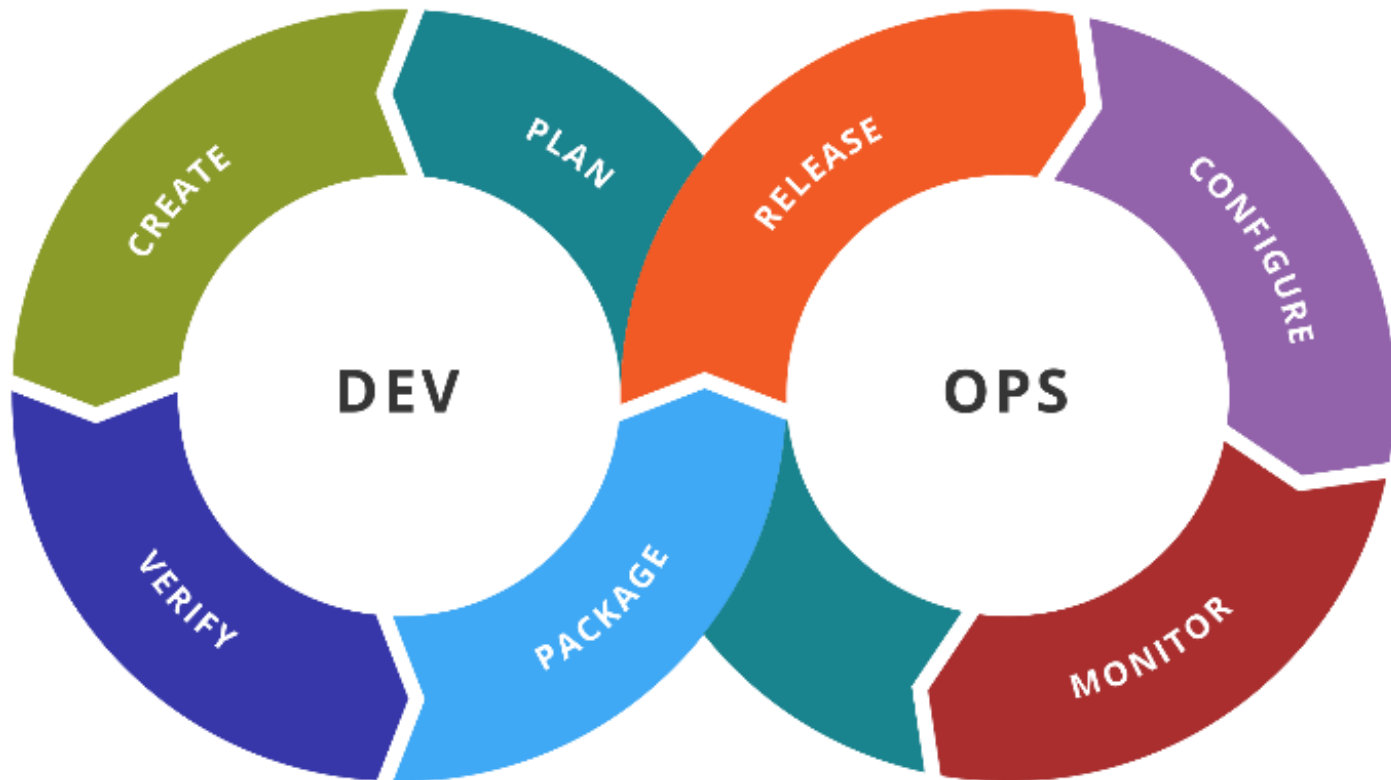
DevOps related (6)

Smart city related (9)

- DevOps is a set of practices that combines
 - software development (**Dev**) and
 - information-technology operations (**Ops**)which aims to shorten the systems development life cycle and provide continuous delivery with high software quality.
- DevOps is a cross-functional mode of working and uses a toolchain for delivering software

DEVOPS DevOps approach

DEVOPS COMPETENCES FOR SMART CITIES



Building a DevOps culture

DevOps is a
cultural shift
rather than a
technical trait

A number of best
practices needed
to establish team
culture

DEVOPS Piloting the MOOC

DEVOPS COMPETENCES FOR SMART CITIES

Status:
Finished

Number of
MOOC
modules:15

Started: 19
Oct 2020

Ends: 19 JAN
2021

Number of
registered
938/700

Number of
Erasmus+
countries: 24

Other
countries: 34

Number
completed:
300+



The screenshot shows a web browser window with the URL `smartdevopsmoo.eu/moodle/pages/login.php?errorcode=4`. The browser's taskbar on the left includes icons for Windows, Edge, Mail, Google, and various applications. The page content displays the **DEVOPS** logo with the tagline "DEVOPS COMPETENCES FOR SMART CITIES". Below the logo is a login form with the following elements:

- Username:** A text input field containing the placeholder "Enter Username".
- Password:** A text input field containing the placeholder "Enter Password".
- LOGIN**: A blue button.
- [Forgot password](#)**: A link.

Below the login form, there is a large image featuring a cityscape background. Overlaid on this is a diagram of interlocking puzzle pieces. Four labels with lines pointing to specific pieces are present:

- build**: Points to a piece on the left.
- release**: Points to a piece in the lower center.
- test**: Points to a piece in the lower right.
- operate**: Points to a piece on the far right.

THE MOST IMPORTANT

Smart DevOps MOOC

World's first MOOC for Smart City:
Planners
IT Managers
IT Officers



OUR MOOC participants agree with this assessment .

After 13 weeks of intense study , brainstorming and tricky quizzes with 15 modules, cannot be more proud to get certified in the first Massive Online Course on "DevOps Competencies for Smart Cities With so much technology disruption going around Smart Cities in many parts of the world and implementing technologies like Artificial Intelligence, Digital Twin, Data Analytics, Blockchain and Internet of Things, we can see how Smart Cities are going to a new level of excellence and changing the whole facet of urbanization for billions of people especially in Big Cities.

I am also very grateful to those awesome lecturers who gave us quality material to study and interesting business case studies which develop our business acumen for proposing constructive and innovative project for Smart Cities.

I truly believe it is very important to set goals for yourself.

One of my personal intentions for 2020 was to deepen my knowledge in smart cities.

This is why I really enjoyed attending the "DevOps Competences for Smart Cities MOOC", which was organised by experts of the DEVOPS Project Consortium Partners...

I want to thank the University of Thessaly and all the other partners for offering this state-of-the-art curriculum under high standards of quality assurance, with a 13-week intensive course and 15 modules developing transferrable and digital skills for smart city professionals. I really enjoy the value that this great experience can bring to my current and future projects.

DEVOPS Piloting the Specialisation course

DEVOPS COMPETENCES FOR SMART CITIES

Status: Ongoing

Start date for
Specialization
Course: 22
February 2021

End date for
Specialization
Course:
September 2021

Duration of 24
weeks

Training the
trainers
Beginning of
February

Specialization courses

- Face to Face learning (24 hrs;)
- online and self-study (288 hrs) and
- assessment (48 hrs)

Practical
placement



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[illegible]

- # Software enabled VET
- 
- A globe is the central element, surrounded by various icons representing different aspects of life and technology. The icons include a car, a plane, a hot air balloon, a bicycle, a lightbulb, a laptop, a smartphone, a camera, a book, a map, a tree, a house, a person, a dog, a cat, a fish, a bird, a flower, a leaf, a coin, a dollar bill, a euro bill, a pound bill, a yen bill, a rupee bill, a dollar coin, a euro coin, a pound coin, a yen coin, a rupee coin. The globe is surrounded by a blue and green gradient, with a white diagonal line running from the bottom left to the top right. The background is a dark blue gradient with a white diagonal line running from the bottom left to the top right. The overall image is a collage of various icons representing different aspects of life and technology, with a globe as the central element. The icons are arranged in a circular pattern around the globe, with a blue and green gradient background. A white diagonal line runs from the bottom left to the top right, dividing the image into two sections. The overall image is a collage of various icons representing different aspects of life and technology, with a globe as the central element. The icons are arranged in a circular pattern around the globe, with a blue and green gradient background. A white diagonal line runs from the bottom left to the top right, dividing the image into two sections. The overall image is a collage of various icons representing different aspects of life and technology, with a globe as the central element. The icons are arranged in a circular pattern around the globe, with a blue and green gradient background. A white diagonal line runs from the bottom left to the top right, dividing the image into two sections.

Thank you for your attention!



<http://devops.uth.gr>



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ENHANCING
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ACROSS EUROPE
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