



The contemporary labour market: How to provide career guidance when we do not know exactly what future brings?

dr. Sabina Žnidaršič,
University of Ljubljana Career Centres

What do we know about tomorrow's labour market?



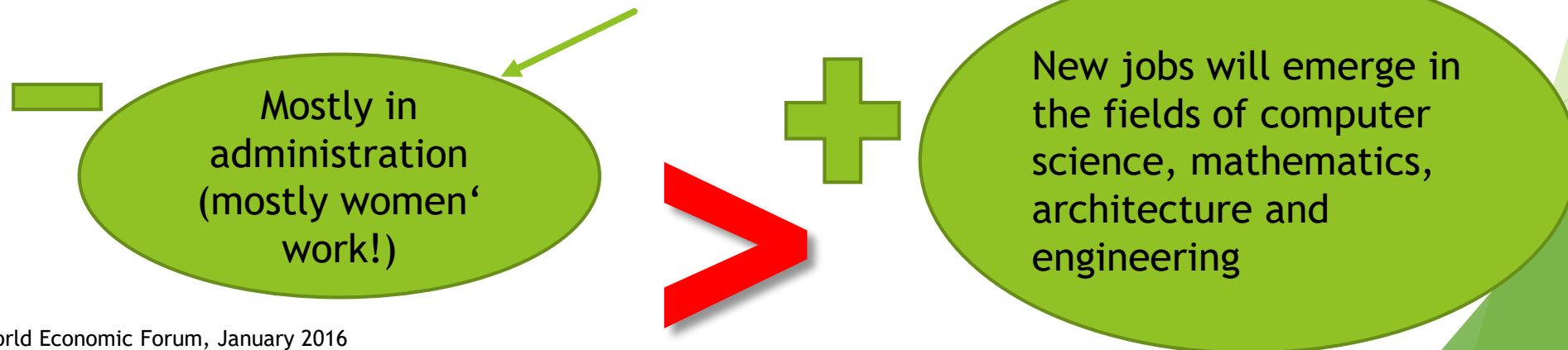
FACTS or what do we know

- ▶ Klaus Schwab, *The Fourth Industrial Revolution*, 2016:

„New technologies will dramatically change the nature of work across all industries and occupations,“

„Many different categories of work, particularly those that involve mechanically repetitive and precise manual labour, have already been automated. Many others will follow, as computing power continues to grow exponentially. Sooner than most anticipate, the work of professions as different as lawyers, financial analysts, doctors, journalists, accountants, insurance underwriters or librarians may be partly or completely automated.“

- ▶ Between 2015-2020 **millions of jobs will be lost**



**Slovenia:
43% jobs in
industry will be lost
until 2030 !**

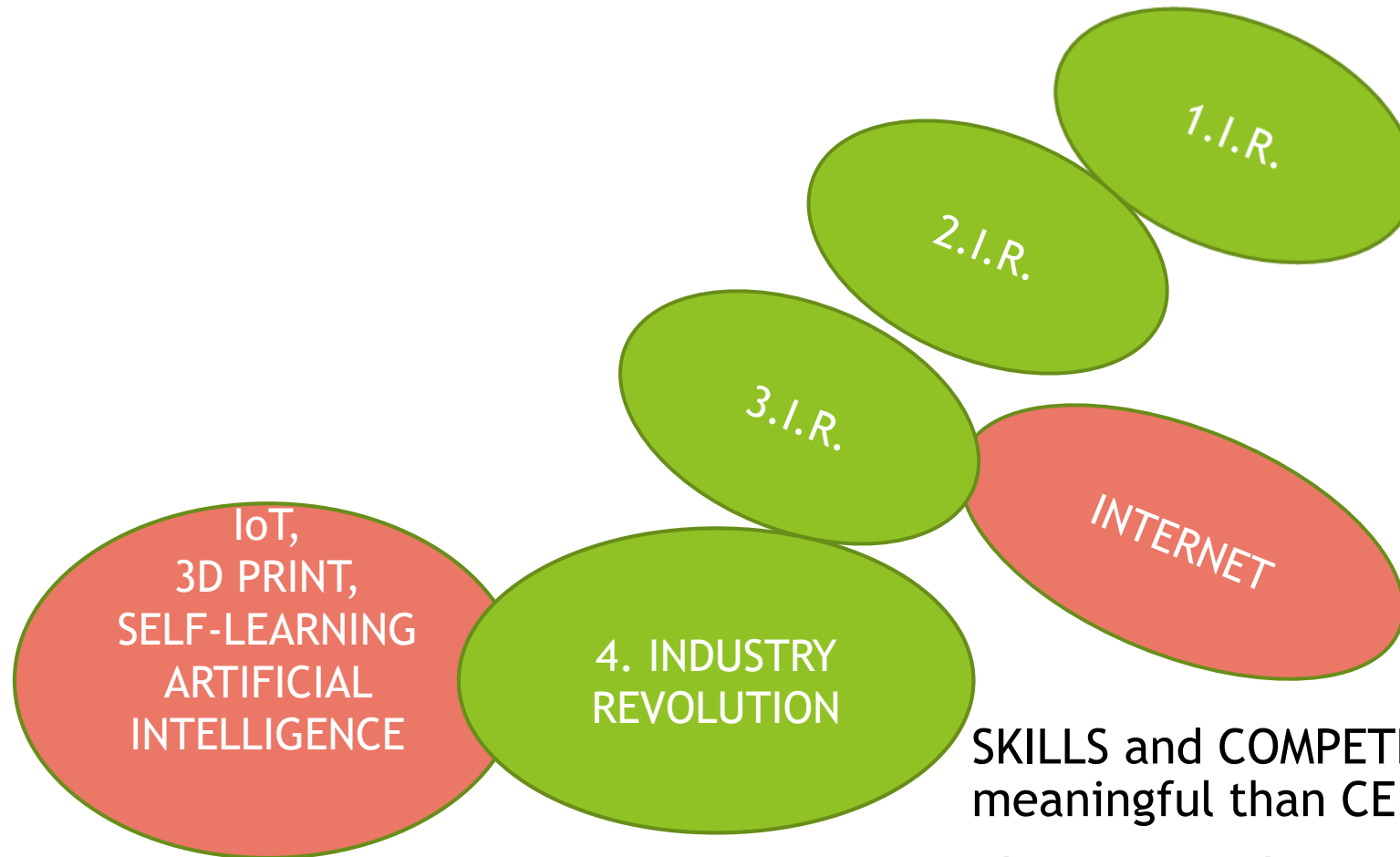
Accelerators of changes

- ▶ **globalization**
- ▶ **automatization, robotization, digitalization**
- ▶ **demography**
- ▶ **ecology**

Forming new „professions“ in fields:

- ▶ Internet of things/IoT
- ▶ 3D print
- ▶ Large data bases
- ▶ Artificial Intelligence
- ▶ Biotechnology
- ▶ Electrical engineering
- ▶ Professionalization of human relations

Major accelerators of changes (in the past): INDUSTRIAL REVOLUTIONS

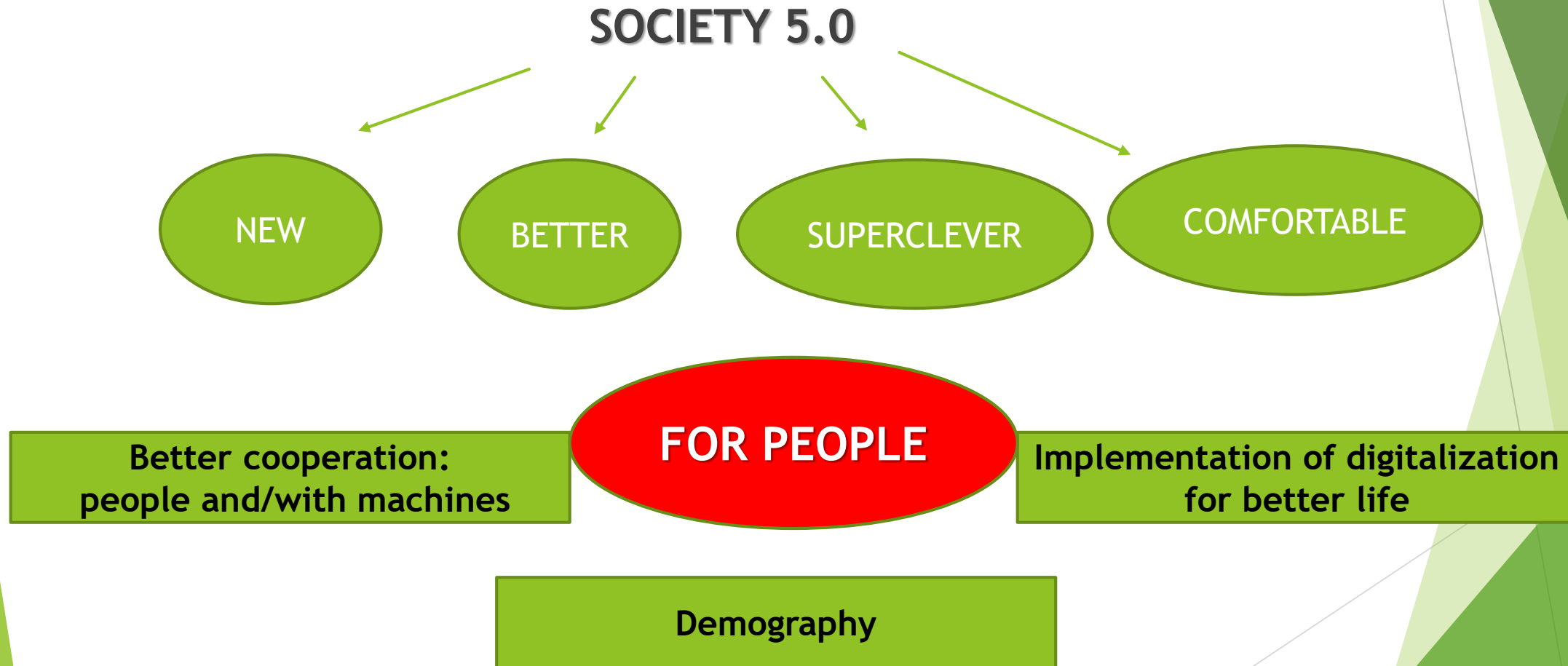


EDUCATION:
closely connected with
development in ECONOMY+
VOCATIONAL EDUCATION =
EDUCATION FOR THE
PROFESSION

SKILLS and COMPETENCES more
meaningful than CERTIFICATES.

Changes in education and
individual's career.

Society 5.0 - Japanese government program (RS is (partly) in too!)



Technology of 21.st century:
Accelerators of changes (in the future)

- ARTIFICIAL INTELLIGENCE
- GENETICS/BIOLOGY
- BLOKCHAIN



Impact on:
PRIVACY
EDUCATION
WORK
RELATIONSHIPS

Why jobs are disappearing?

If the 1. and 2. IR demanded more and new, educated work force (and more and new consumers!),
the 3. and 4. IR have a vital potential (at last!) to terminate human hard, boring, health threatening work.

OPTIONS/ALTERNATIVES

**HUMAN SOCIETIES
ARE NOT
RATIONAL/REASONABLE!**

**RETURNING INTO
PARADISE?
(dare we?!)**

OR

**FEAR?
(existential socially
terror before
inevitable changes)
FIGHT FOR OLD
REGIME!**

OR

**NEW SOCIETY
EMERGE
(new meaning of
work, new socially
contract)**

FACTS: JOBS most subjected to automatisisation

- ❖ Telesales;
- ❖ Tax preparers;
- ❖ Insurance appraisers, Auto Damage;
- ❖ Umpires, Referees and Other Sports Official;
- ❖ Legal secretaries;
- ❖ Host and Hostesses, Restaurant, Lounge, and Coffee Shop;
- ❖ Real Estate Brokers;
- ❖ Farm Labour Constructor;
- ❖ Secretaries and Administrative Assistant, Except Legal, Medicine & Executive;
- ❖ Couriers and Messengers;
- ❖ Various works in the labor-intensive industries;

FACTS: JOBS least subjected to automatisisation/“most safe“ jobs

- ❖ Mental health and substance abuse social workers;
- ❖ Choreographers;
- ❖ Physicians and surgeons;
- ❖ Psychologist;
- ❖ Human resources managers;
- ❖ Computer system analysts;
- ❖ Anthropologies and archaeologies;
- ❖ Marine engineers and naval architects;
- ❖ Sales managers;
- ❖ Chief executives.

NEW JOBS - ALREADY HERE

- ❖ Dispatcher of drones
- ❖ Ethicist of new science
- ❖ Nano physician
- ❖ Coordinator for teaching children at home
- ❖ Executive seller
- ❖ Investment banker
- ❖ Actuary
- ❖ Software developer
- ❖ Expert for 3D print
- ❖ Digital archaeologist
- ❖ Idea manager
- ❖ Expert for public relationships
- ❖ Data miner
- ❖ Social media editor
- ❖ Editor of digital social communities
- ❖ Social gerontologist
- ❖ Expert for privacy
- ❖ Analyst for business databases
- ❖ Personal coach
- ❖ Manager for the happiness of employees
- ❖ Expert for virtual currency
- ❖ Expert for online marketing

NEW JOBS - ALREADY HERE

- ❖ Amnesia surgeon
- ❖ Gis anayst
- ❖ Advisor for e-commerce
- ❖ Expert for virtual property
- ❖ Investment banker
- ❖ Expert for web marketing
- ❖ Web saler/advisor
- ❖ Computer user support specialist
- ❖ Profesional friend
- ❖ Lawyer for virtual property

Jobs in near future

- ❖ Genomic Portfolio Director
- ❖ Data Detective
- ❖ Personal Memory Curator
- ❖ Digital Tailor
- ❖ Genetic Diversity Officer
- ❖ Visual Store Sherpa
- ❖ Financial Wellness Coach
- ❖ Personal Data Broacher
- ❖ Ethical Sourcing Manager
- ❖ Galactic touroperator
- ❖ Trash Engineer
- ❖ Earthquake Forecaster
- ❖ Medical Mentor
- ❖ Organ/Body Part Creator
- ❖ Memory Surgeon
- ❖ Personal Productivity Person
- ❖ Personal Internet of Things (IoT)
- ❖ Security Repair Person
- ❖ Human Flight Instructor
- ❖ Commercial Space Pilot
- ❖ Ciber City Analist
- ❖ Man Machine Teaming Manager

Jobs that are upcoming

- ❖ Financial wellness coach
- ❖ Personal data broker
- ❖ Men-machine teaming manager
- ❖ Cyber city analyst
- ❖ Data detectiv
- ❖ Genomic portfolio director
- ❖ Personal memory curator
- ❖ Ginetic diversity officer
- ❖ Agent for human organs
- ❖ Disaster expert
- ❖ Psychotherapist for death
- ❖ Walker/talker
- ❖ Fitnes commitment counselor
- ❖ Galactic miner
- ❖ Geo-engineer for weather and plants
- ❖ Robots care-taker
- ❖ Human and robots relationship advisor
- ❖ Advisor for genetic
- ❖ Profesor for socialisation and socialising
- ❖ Digital tailor

What about intellectual professions?!

Professions in the proces of transformation

Legal professions

Doctors of Medicine (MD)

Teachers

Learning with robots

Learning with robots

Explpring the eductional potential of robotics in schools: A systematic review

Jornalist

Actor

Translator

...

What do we need?!

SKILLS

Gained through exercise, repetition,
mastering of operation



MASTERY

- **Soft:** shape our interactions with social environment
- **Professional:** profession specific/oriented
- **GENERIC:** multiplied effects on different fields

COMPETENCES

The sum of individual's creativity:
KNOWLEDGE, SKILLS, EXPERIENCES,
CONVICTIONS, MOTIVATION, AMBITIONS...

COMPETENCES = „WORK INTELEGENCE“

WORKING EXCELLENCY



- BASIC- goals of elementary school
- GENERIC
- SOFT (social)
- SYSTEMIC

instrumental
interpersonal
intrapersonal
systemic competences

What are employers looking for/prefer?

SKILLS (universal)

- ❖ Communication skills
- ❖ Analytical/research skills
- ❖ Computer/technical literacy
- ❖ Adaptability/flexibility and the ability to manage multiple priorities (multitasking)
- ❖ Interpersonal skills (teamwork skills, ability to motivate, conflict mitigation)
- ❖ Leadership/management skills
- ❖ Multicultural sensitivity/awareness
- ❖ Planning/organising skills
- ❖ Problem-solving and creativity

Prevailing social skills

What are employers looking for/prefer?

COMPETENCES (for 2020!!!)

- ❖ **Sense-making**: ability to determine the deeper meaning or significance of what is being expressed;
- ❖ **Social intelligence**: ability to connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions;
- ❖ **Novel & adaptive thinking**: proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based;
- ❖ **Cross-cultural competence**: ability to operate in different cultural settings;
- ❖ **Computational thinking**: ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning;
- ❖ **New-media literacy**: ability to critically assess and develop content that uses new media forms, and to leverage these media for persuasive communication;
- ❖ **Transdisciplinarity**: literacy in and ability to understand concepts across multiple disciplines;
- ❖ **Design mindset**: ability to represent and develop tasks and work processes for desired outcomes;
- ❖ **Cognitive load management**: ability to discriminate and filter information for importance, and to understand how to maximise cognitive functioning using a variety of tools and techniques;
- ❖ **Virtual collaboration**: ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team).

(search) Skills till 2030 (v Slo. -<40% jobs in industry!)

- ❖ Teaching
- ❖ Social sensibility, coordination, collaboration
- ❖ Knowledge in psychology, anthropology

- ❑ Originality
- ❑ Active learning
- ❑ Fluency of ideas

- ▶ Assessment, decision making, ruling, leading
- ▶ Analytical thinking
- ▶ Evaluation, judging of systems

INTERPERSONAL SKILLS:

COGNITIVE SKILLS:

SYSTEMIC SKILLS:

Recognition, understanding, cooperation,
integration in social technical
system/communities

INTERDISCIPLINARITY and CONNECTIVE / COMMUNICATIVE KNOWLEDGE
NETWORKING

Advice for sustainable successful performance in the labor market of 21st century

Focus moving from PROFESSION  to PROBLEM SOLVING, CHALLENGES, COOPERATION

and to individual's INTERESTS, CAPABILITIES, SKILLS, COMPETENCIES, AMBITIONS, EXPECTATIONS

Dynamics of our skills, competences will determine the course of our careers

WORKING PLACE/JOB are withdrawing



POSITIONS  to different PROJECTS with diverse TEAMS, diverse JOB SITUATIONS, diverse WORK

strengthening, developing our COMPETENCIES and EMPLOYABILITY
(new knowlage, experiences, ...)

Our belives/prejudices:

The greatest obstacle to adapt our capabilities to new circumstances

What is important?!

▶ **KNOWLEDGE:** functional, generic, interoperable, interdisciplinary, communicative, refreshing-updating, ...

▶ **COMPETENCES, SKILLS:**

1. functional knowlage
2. cooperatibility
3. indipendantly study
4. literacy (new technology...)
5. ...

▶ **VALUES:**

1. co-responsibility
2. self-esteem
3. hard-working
4. commitment
5. social resposibility
6. ...

PERSONAL ATTITUDE:

- 1.motivation
- 2.thurst for new knowledge ... learnability
- 3.emotional intelligence
- 4.mental resilience
- 5....

Alternative forms of future society

Organization of society

HYBRID FORMS:

- ❖ cooperative society/society of division
- ❖ capitalistic society
- ❖ state economy
- ❖ third pillar of economy/social economy
- ❖ ...

Organization of work

Flexibilisation Project work

- Work/occupational mobility
 - Teleworking
 - Freelancer
 - Gig-economy
- Economy on-demand
 - Shering economy
- Peer-to-peer economy
 - Platforms
 - ...

Future - alternatives

- ▶ shortening of working day/week (technology, increasing productivity, disappearing of jobs, demography - aging of labour force, unemployment of youth); last shortening?!
- ▶ with unchanged salaries (suggestions: taxes on robotisation, new transfer of incomes - new social agreement)
- ▶ basic income/Universal basic income - UBI
- ▶ changes of life goals/career pattern
- ▶ changes of education system/education vertical

How to provide career guidance when we do not know exactly what future brings?

WHAT DO WE KNOW?



WHAT WE DON'T KNOW?

WHAT IT IS IMPORTANT?

For the end:
LET'S THINK AGAIN!

WHAT THE WORK IS?
THE MEANING OF WORK!

Dr. Sabina Žnidaršič Žagar
Sabina.Znidarsic-Zagar@uni-lj.si

University of Ljubljana
Centre for students' personal and professional development