LT-INNOVATE.EU

Analysis of H2020 from the perspective of LT

Ruben RIESTRA

inmark estudiosyestrategias

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SEVENTH FRAMEWORK PROGRAMME

European Commission

Draft – Pending Commission Decision

ICT in HORIZON 2020

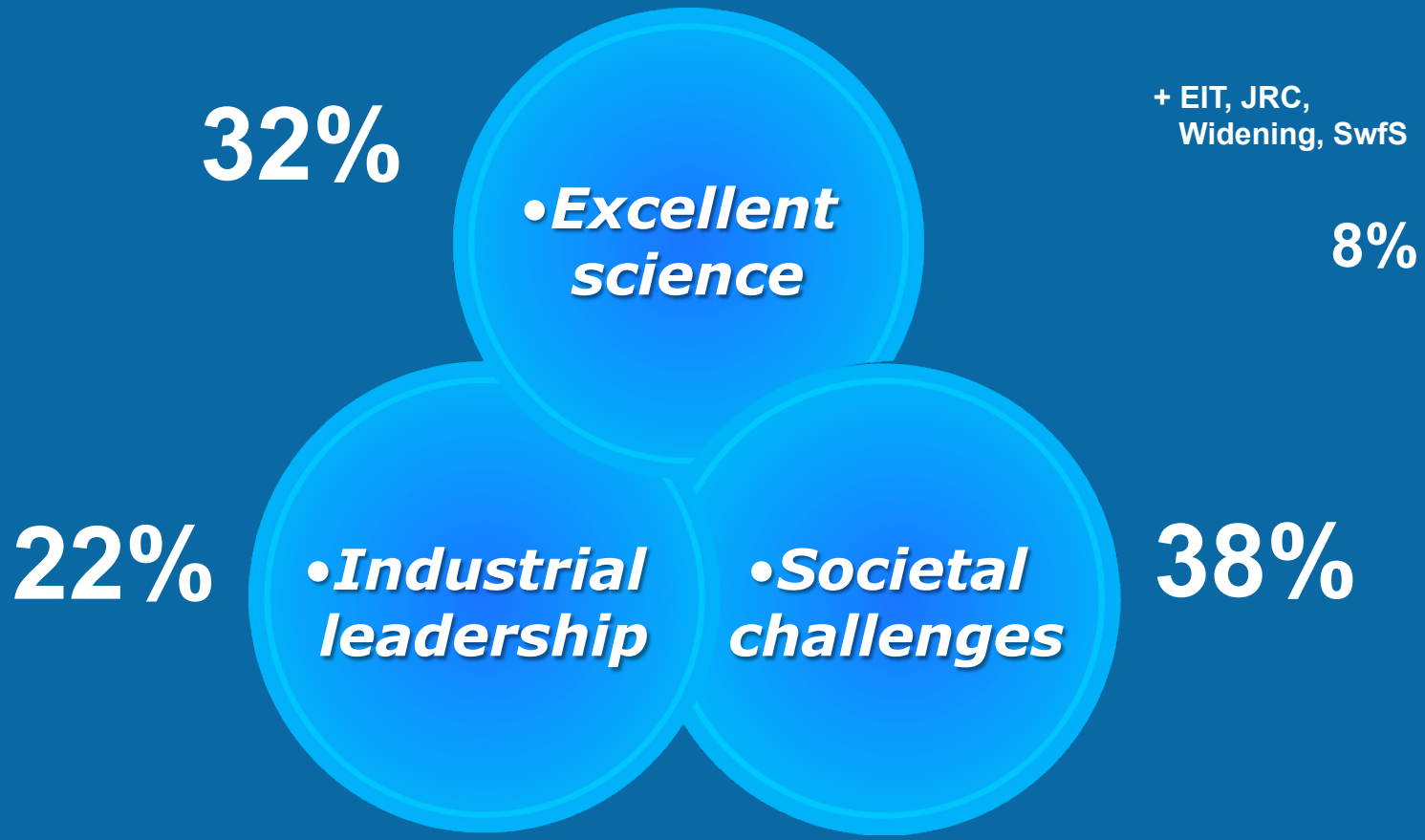
The New EU Framework Programme for Research and Innovation

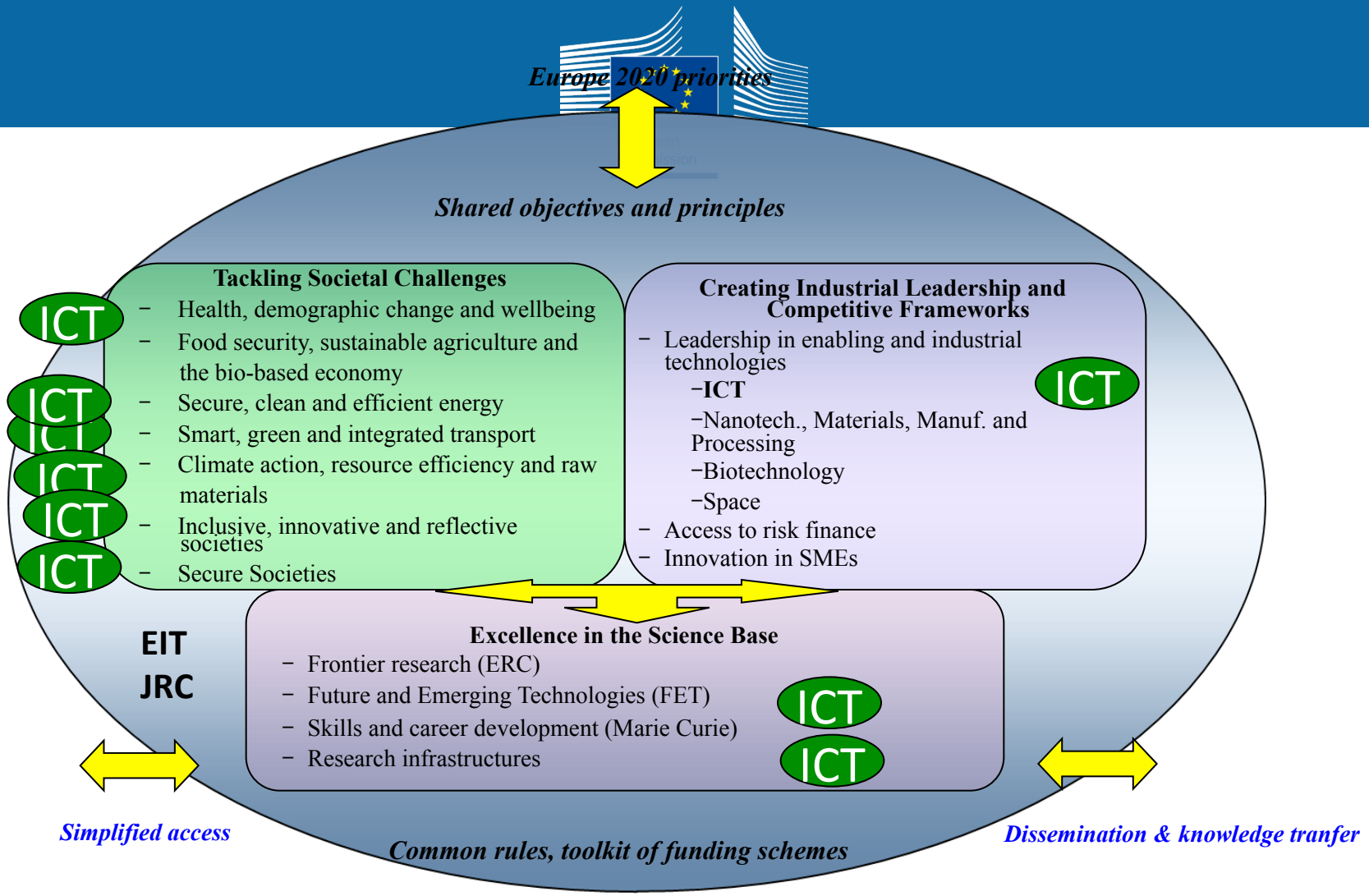
2014-2020

Morten Møller
DG CONNECT

HORIZON 2020

Three priorities

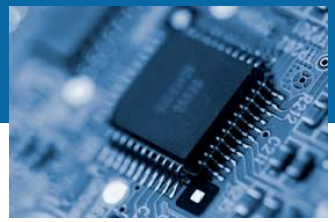



Europe 2020 priorities
Shared objectives and principles
Tackling Societal Challenges
- Health, demographic change and wellbeing
- Food security, sustainable agriculture and the bio-based economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and reflective societies
- Secure Societies
ICT
ICT
ICT
ICT
ICT
Creating Industrial Leadership and Competitive Frameworks
- Leadership in enabling and industrial technologies
  - ICT
  - Nanotech., Materials, Manuf. and Processing
  - Biotechnology
  - Space
- Access to risk finance
- Innovation in SMEs
ICT
EIT
JRC
Excellence in the Science Base
- Frontier research (ERC)
- Future and Emerging Technologies (FET)
- Skills and career development (Marie Curie)
- Research infrastructures
ICT
ICT
Simplified access
Common rules, toolkit of funding schemes
Dissemination & knowledge tranfer

ICT in Industrial Leadership (LEIT)

European Commission

Industrial Leadership - ICT



1. *A new generation of components and systems: engineering of advanced embedded and resource efficient components and systems*
2. *Next generation computing: advanced and secure computing systems and technologies, including cloud computing*
3. *Future Internet: software, hardware, infrastructures, technologies and services*
4. ***Content technologies and information management: ICT for digital content, cultural and creative industries***
5. *Advanced interfaces and robots: robotics and smart spaces*
6. *Micro- and nanoelectronics and photonics: key enabling technologies*

4. Content technologies and information management / 2014-2015

Draft – Pending Commission Decision

- ***Addresses:***
  - ***Big Data*** *with focus on both innovative data products and services and solving research problems*
  - ***Machine translation*** *to overcome barriers to multilingual online communication*
  - ***Tools for creative, media and learning industries*** *to mobilise the innovation potential of SMEs active in the area*
  - ***Multimodal and natural computer interaction***
- ***Organised in eight topics:***
  - Big data innovation and take-up
  - Big data research
  - Cracking the language barrier
  - Support to the growth of ICT innovative creative industries SMEs
  - Technologies for creative industries, social media and convergence
  - Technologies for better human learning and teaching
  - Advanced digital gaming/gamification technologies
  - Multimodal and natural computer interaction

ICT in Societal Challenges

European Commission

Societal Challenges - ICT

1. *Health, demographic change and wellbeing*
2. *Food security, sustainable agriculture, and forestry, marine, maritime and inland water research, and the bioeconomy*
3. *Secure, clean and efficient energy*
4. *Smart, green and integrated transport*
5. *Climate action, environment, resource efficiency and raw materials*
6. *Europe in a changing world – inclusive, innovative and reflective societies*
7. *Secure societies – protecting freedom and security of Europe and its citizens*

Key principles for ICT R&I in the Societal Challenges

- *Interoperability*
- *Re-use and economies of scale*
- *Demand led R&I with User involvement in all stages*
- *Breakthroughs leveraging the transformative power of ICT*
- *Preparation for market deployment*
- +
- *Information for future digital policy*

H2020 ICT WP 2014-2015

ICT 17

Cracking the language barrier

Aleksandra Wesolowska

Unit G.3 - Data Value Chain

H2020-LEIT-ICT WP2014-15 pending Commission decision

Challenge

European Digital Single Market is fragmented by language barriers

- online commerce, social communication and exchange of cultural content stop on the national/linguistic borders
- current machine translation solutions fall short in quality and coverage (languages, text types, topics) and are not customizable
- lack of cross-lingual technology equally hampers progress in multi- and cross-lingual analytics

Solution

Explore new avenues, methods, approaches to achieve ***significant improvement in translation quality*** in **fully automatic MT**

Approach

- Self-learning/self-improving, **fully automatic** systems, making best use of available data and language resources
- Systems dealing with huge volumes, high variety of languages and text styles
- Systems delivering results in reasonable time

European context and implications

- emphasis on all (difficult, small) EU languages as **target** language
- special focus on the official EU languages "facing digital extinction" – 21 languages with "weak or no support" or "fragmentary support" of MT solutions, according to the META-NET Language White Papers
- close collaboration and clustering with other H2020 actions and among all actions supporting a **language resource infrastructure** (META, CLARIN-ERIC, Connecting Europe Facility, national programs, structural funds...)

One deep and broad **research project** (budget: 4 MEUR)

- kick off a multidisciplinary research action
- focus on points where current systems fail (adaptation, quality, need of large corpora...)
- break the glass ceiling of quality improvement
- test & validate against agreed benchmarks
- concentrate on difficult target languages

- no research on computer-aided translation
- no post-editing of MT output

A few **innovation actions** (budget: 10 MEUR)

- test, validate, evaluate quality improvement in realistic use situations - experiment opportunities for new approaches to automatic translation
- use case situations: online services, CEF, other digital infrastructures…
- address "poorly served" languages
- connect, contribute & make use of platforms and infrastructures for language resources, open data…

One **coordination action** (budget 1 MEUR)

- promote a common infrastructure for MT benchmarking
- promote optimal use of language resources from various sources
- organisational and coordination aspects between all projects & actions in MT & LR area in all phases of lifecycle (research & innovation in H2020, deployment in CEF…)
- interoperability & metadata harmonisation
- observatory in the LT area

- **By 2025,** an online EU **internal market free of language barriers**, delivering automatic translation quality, equal to currently best performing language pair/direction, in most relevant use situations and for at least 90% of the EU official languages

- **Significant improvement in quality, coverage and technical maturity of MT** for at least half of the 21 EU languages that currently have "weak or no support" or "fragmentary support" of MT solutions, according to the META-NET Language White Papers

- Large contributions of language resources and language technology tools to **a single platform** for sharing, maintaining and making use of language resources and tools; establishing **widely agreed benchmarks for machine translation quality** and stimulating competition between methods and systems

- **ICT 17 Cracking the language barrier**
- **Call 1** in 2014
- available budget **15 MEUR**:

  (a) R&I action **4 MEUR**

  (b) Innovation actions **10 MEUR**

  (c) CSA **1 MEUR**

- **Technical background notes** available soon
- **Info Day** on 15-16 January 2014 in Luxembourg
- **Pre-proposal service**: CNECT-G3@ec.europa.eu

- **Data Value Chain Unit** (DG CONNECT G3): http://cordis.europa.eu/info-management & http://cordis.europa.eu/fp7/ict/language-technologies/
- Join our **mailing list**: CNECT-G3@ec.europa.eu
- Follow us on **Twitter**: @EUDataEcosystem
- Join the **LinkedIn** group EU Data Ecosystem: http://www.linkedin.com/groups/EU-Data-Ecosystem-4925185
- Sign **Manifesto on Big Data**
- **European Data Forum** 19-20 March 2014 in Athens

Thank you!

Aleksandra.Wesolowska@ec.europa.eu