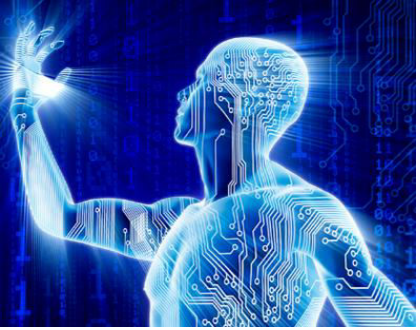

6th meeting of the ITU-T Focus Group on Technologies for Network 2030

New 2030 regulatory frontiers against Holographic Networks in the Post-Humanism Era:

Communications regulatory conceptual framework proposal for 2030 and beyond

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(FG NET2030), 13-15 January 2020, Lisbon, Portugal


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Massingir
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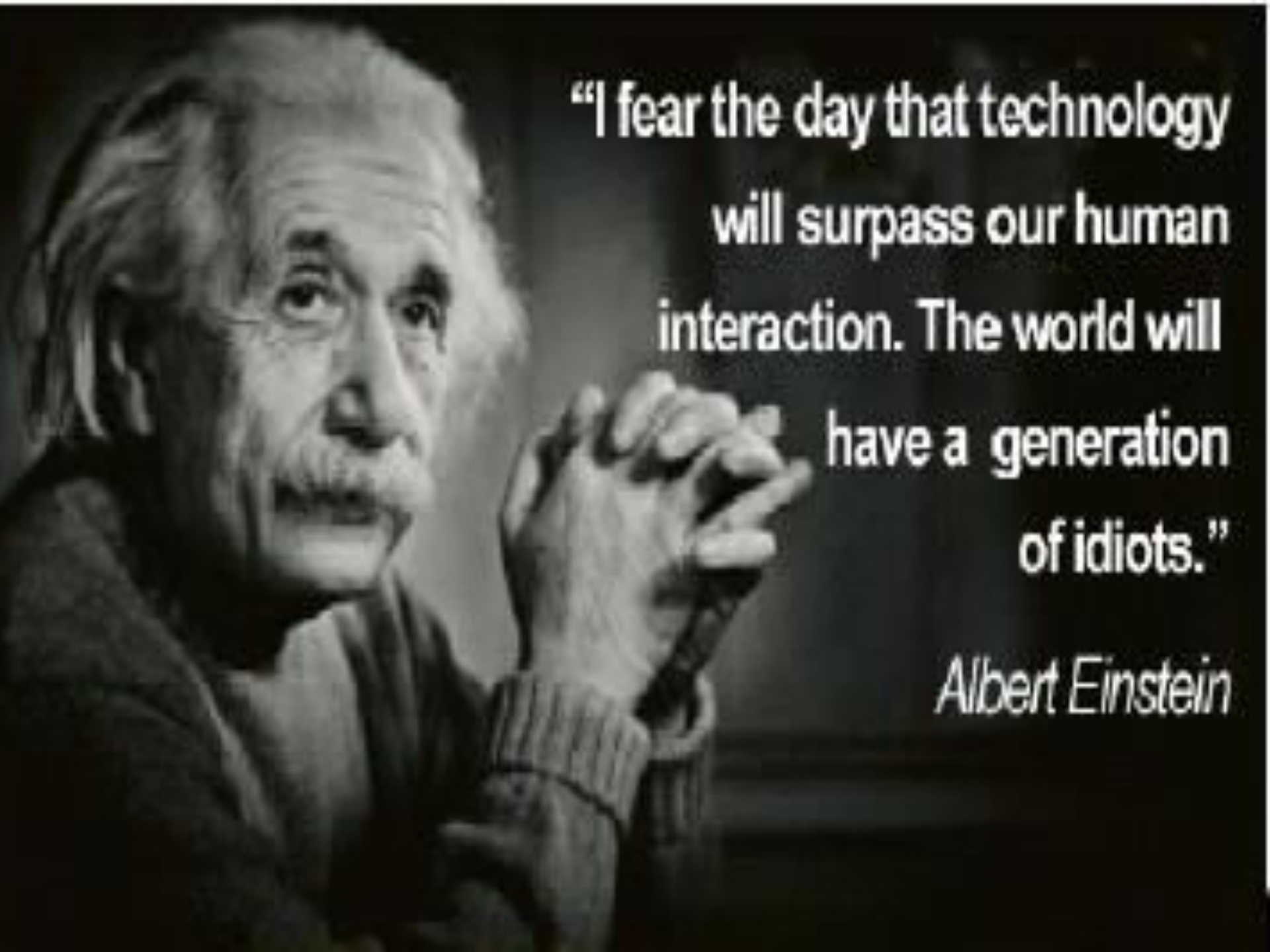
Ponta do Ouro

Summary

- Related ITU 2019 presentations;
- Introduction
  - Rethink Regulation
- Research Hypotheses;
- 2030 The Big Challenges;
- Perspectives and Actions Proposed:
  - 2030 Regulatory conceptual Framework Proposal;
- Conclusion and Recommendations.
- bibliography

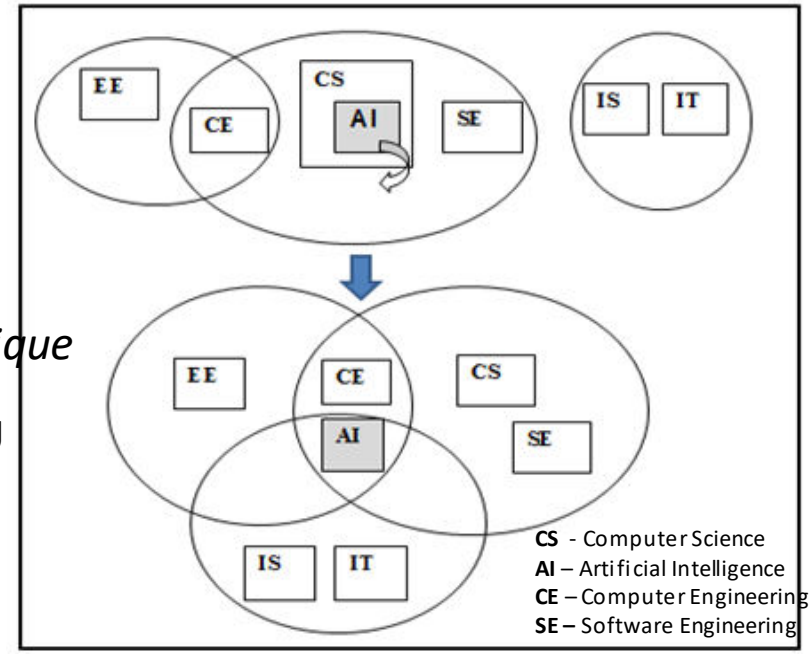
we will take a Norbert Wiener cybernetic approach


"I fear the day that technology will surpass our human interaction. The world will have a generation of idiots."
Albert Einstein

Related ITU 2019 presentations in FG NET2030

Previous summaries proposed to present:

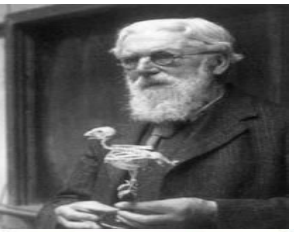
- **Olumene L.R.S.,** 2019, *The Relevance of Artificial Intelligence in the actuality: A Proposal for the Definition of its Scientific Statute in Computing*, Third ITU Workshop on Network 2030 FG NET2030, London, National physics laboratory, February 2019. (accepted and published);
- **Olumene L.R.S.,** 2019, *ANCD Model: A Machine Intelligence Test Architecture based on a Machine Learning for an Ambient Intelligence Sensor Network: A case of Mozambique National Telecommunication Network*, Fifth ITU Workshop on Network 2030, Geneva, 14 - 16 October 2019. (Not published).

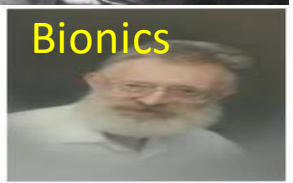


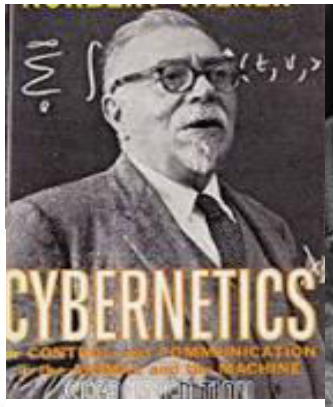
Source: Author, Master Dissertation in AI, 2014

Introduction: Rethink Regulation

- Technical-philosophical questions or aspects, many coming from science fiction, quite controversial and without consensus, are today brought back to debate but with a difference:
  - these technologies (*as for example Artificial Intelligence, Holographic* technologies*)* that emerged from this controversy, today, are real and force us to rethink, take new positions, independently of each points of view;
- Why? as Elon Musk states : *"We need to regulate Artificial Intelligence before it becomes a danger to humanity"*







John McCarthy

Marvin Minsky

Herbert A. Simon

Allen Newell

Arthur Samuel（左）

Oliver Selfridge

Ray Solomonoff

Claude Shannon

Introduction: Rethink Regulation

"*AI is a broad church, whose members differ about general methodology as well as detail*" (Boden 1996 P.xv quoted by Olumene 2014).

- As we mentioned on the previous slide for Artificial intelligence in all:
  - we agree on the end (its impacts, ethical aspects, risks, advantages and disadvantages etc) but…;
  - we do not agree on the beginning (its origin, what it is, its objectives, methods, tools etc).

Research Hypotheses: Hypothesis.1

Statment:

- Pressman (2006 quoted by Olumene 2014) says that:
  - In the long run, revolutionary advances in <<computing>> could be guided by <<human sciences>> such as human psychology, sociology, philosophy, anthropology and others ... The influence of the human sciences could help shape the direction of computer research(…)

Hypothesis.1:

- From the above quote we can deduce the following:
  - *If Telecommunications (as for example Holographic Type Communication) and its regulation are a branch of <<computing>>, then in the long run its advances will be guided by the humanities* such as human psychology, sociology, philosophy, anthropology and others .

Research Hypotheses: Hypothesis.2

Statment:

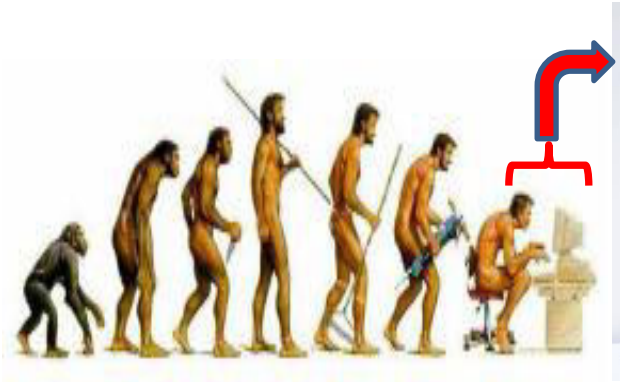
- *"For many years Dr Rosenblueth and I shared the conviction that the most fruitful areas for the growth of the sciences were those which had been neglected as a <<no man´s land>> between the various established fields…These specialized fields are continually growing and invading new territory*" (Wiener 1961, p.2).

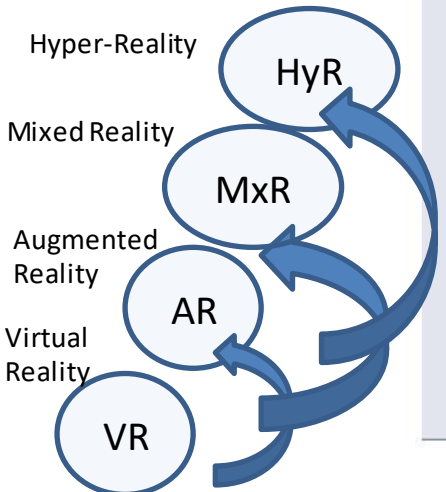
Hypothesis.2:

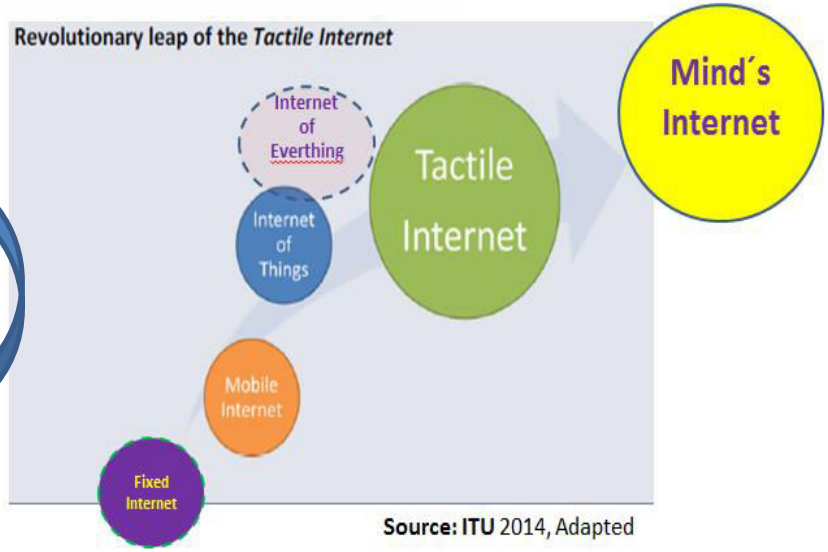
- From the above quote we can deduce the following:
  - *If Holographic Artificial Intelligence is largely the result of cybernetics movement, then the regulation of 2030 Technology (as for example Holographic Type Communication) should follow the same principle as cybernetics: Working across borders (no man´s land).*

The Big Challenge

- Paradigm shift with holographic type communications and haptic communications: From "***The Human use of technologies by human Beings***" to "***The Human Use of Human Beings***" (Human as a "x")
  - Human as a Technology (HaaT);
  - Human as a Network (HaaN);
  - Human as a Content (HaaC);
  - Human as a Services (HaaS).





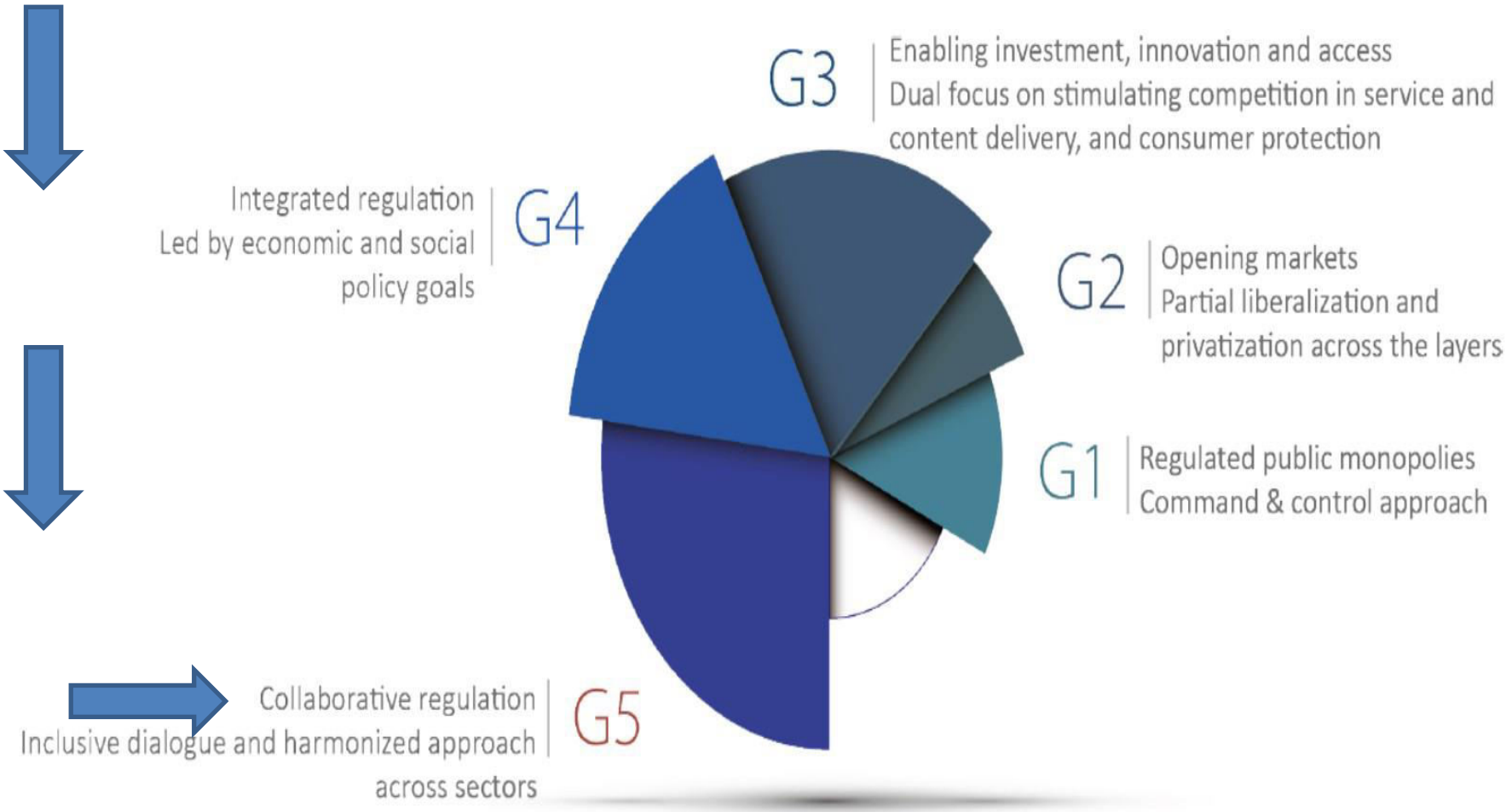


Perspectives and Actions Proposed:
General Regulatory Conceptual Framework 2030 and Beyond

Perspectives and Actions Proposed:

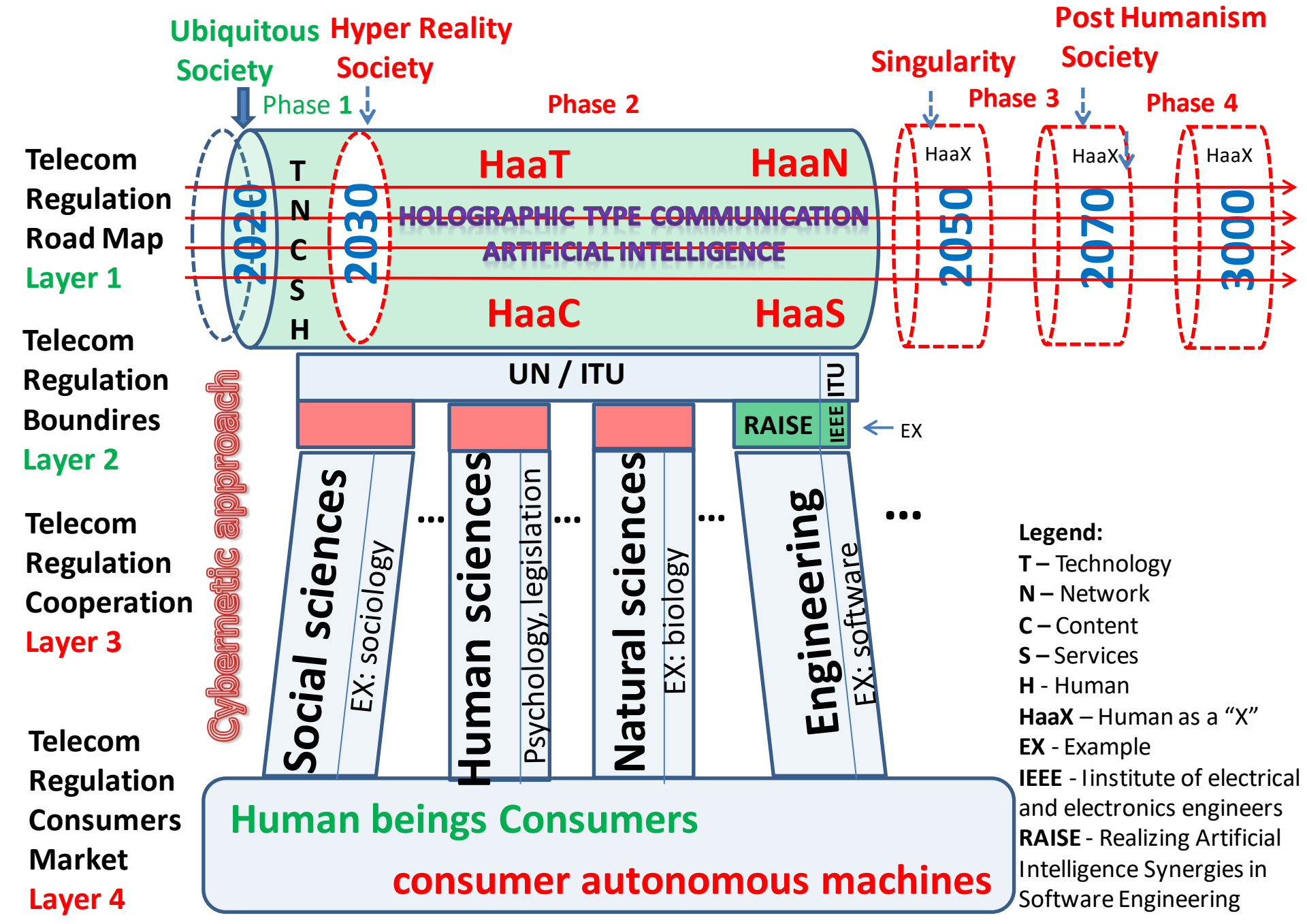
- *"Dr Rosenblueth has always insisted that a proper exploration of these blank spaces on the map of science could only be made by a team os scientists, each a specialist in his own field but each processing a thoroughly sound and traines acquaintance with the field of his neighbors"* (Wiener 1961, p.3).

cybernetics perspective



Source: ITU 2019

General Regulatory Framework 2030 and Beyond



Legend:

T – Technology
N – Network
C – Content
S – Services
H - Human
HaaX – Human as a "X"
EX - Example
IEEE - Iinstitute of electrical and electronics engineers
RAISE - Realizing Artificial Intelligence Synergies in Software Engineering

Conclusion and Recommendations

"*McCarthy reminisced that the main reason the 1956 Dartmouth workshop did not live up to my expectations is that AI is harder than we thought".* (Nilsson 2010 p.80 quoted by Olumene 2014).

- In the past we made some mistakes that caused AI to evolve in isolation way;
- 2030 regulation will have a difficult road by the nature of the technologies involved (For example: Artificial Intelligence, *Holographic* technologies), but we must all be together for 2030 regulation ahead
  - to regulate artificial intelligence/ *Holographic* technologies we will need knowledge of human and social sciences which is actually a method or cybernetic approach.

Conclusion and Recommendations

- If we agree that man is or could be a technology (HaaT), or Content (HaaC) or Services (HaaS), or Network (HaaN), the question of:
  - who regulates what !
- will be the big challenge for the 2030 regulation ahead.

Conclusion and Recommendations

- Russell and Norvig (2010), in the classic AI book, question << What if AI Does Succeed?>> Then they conclude with Alan Turing's sentence in his famous essay << Computing Machinery and Intelligence >> that is still valid today:
  - *"We can see only a short distance ahead, but we can see that much remains to be done"*

  this will be valid << *Mutatis mutandis*>> for 2030 regulation ahead.

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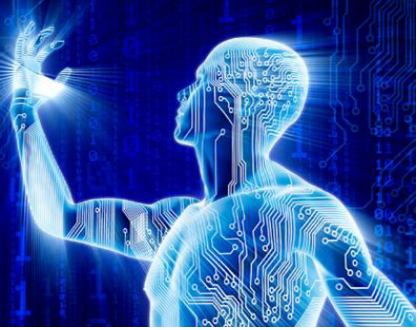

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