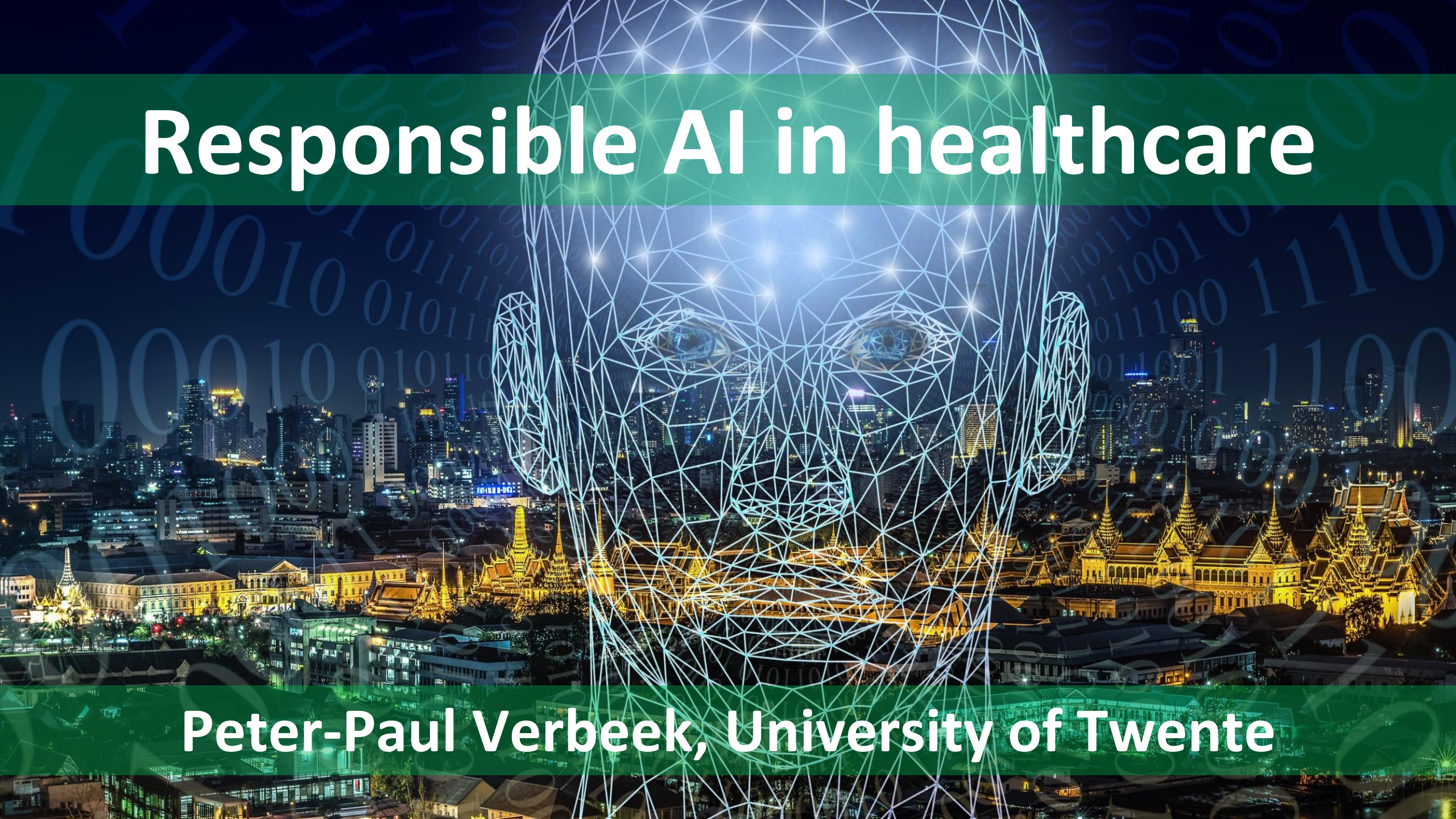
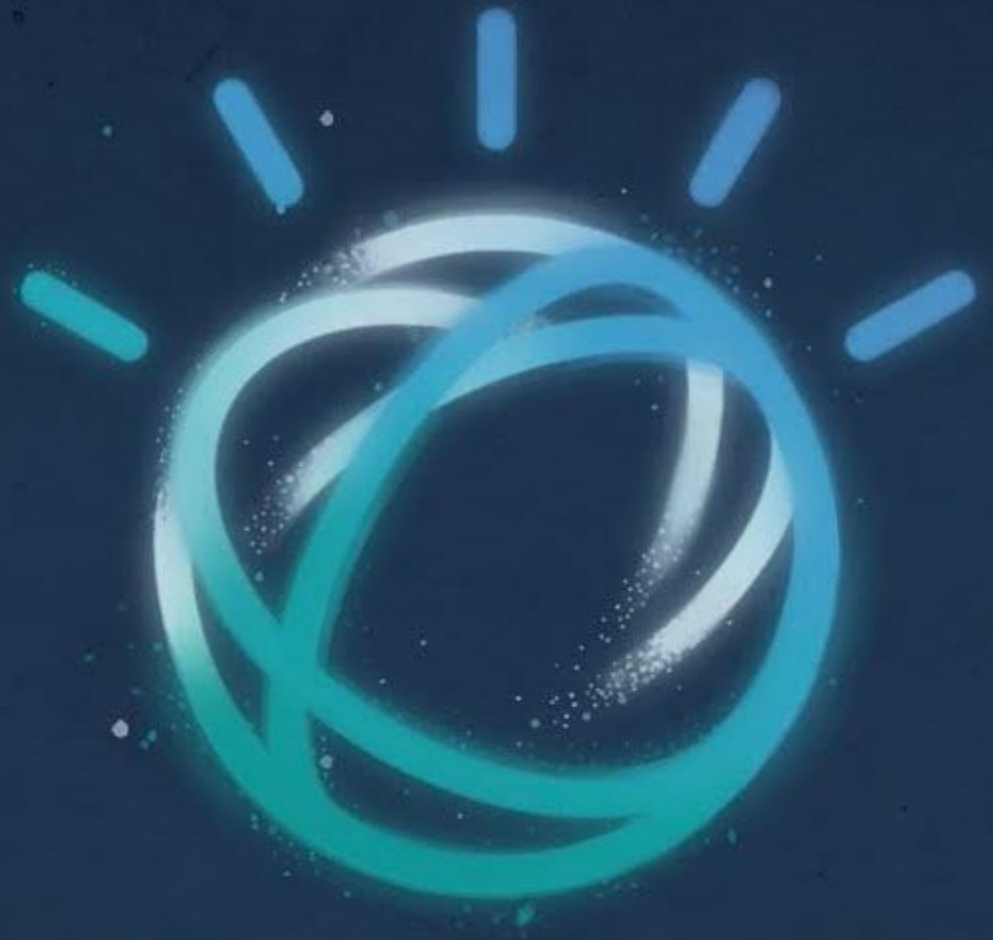
Responsible AI in healthcare



Peter-Paul Verbeek, University of Twente

STAT



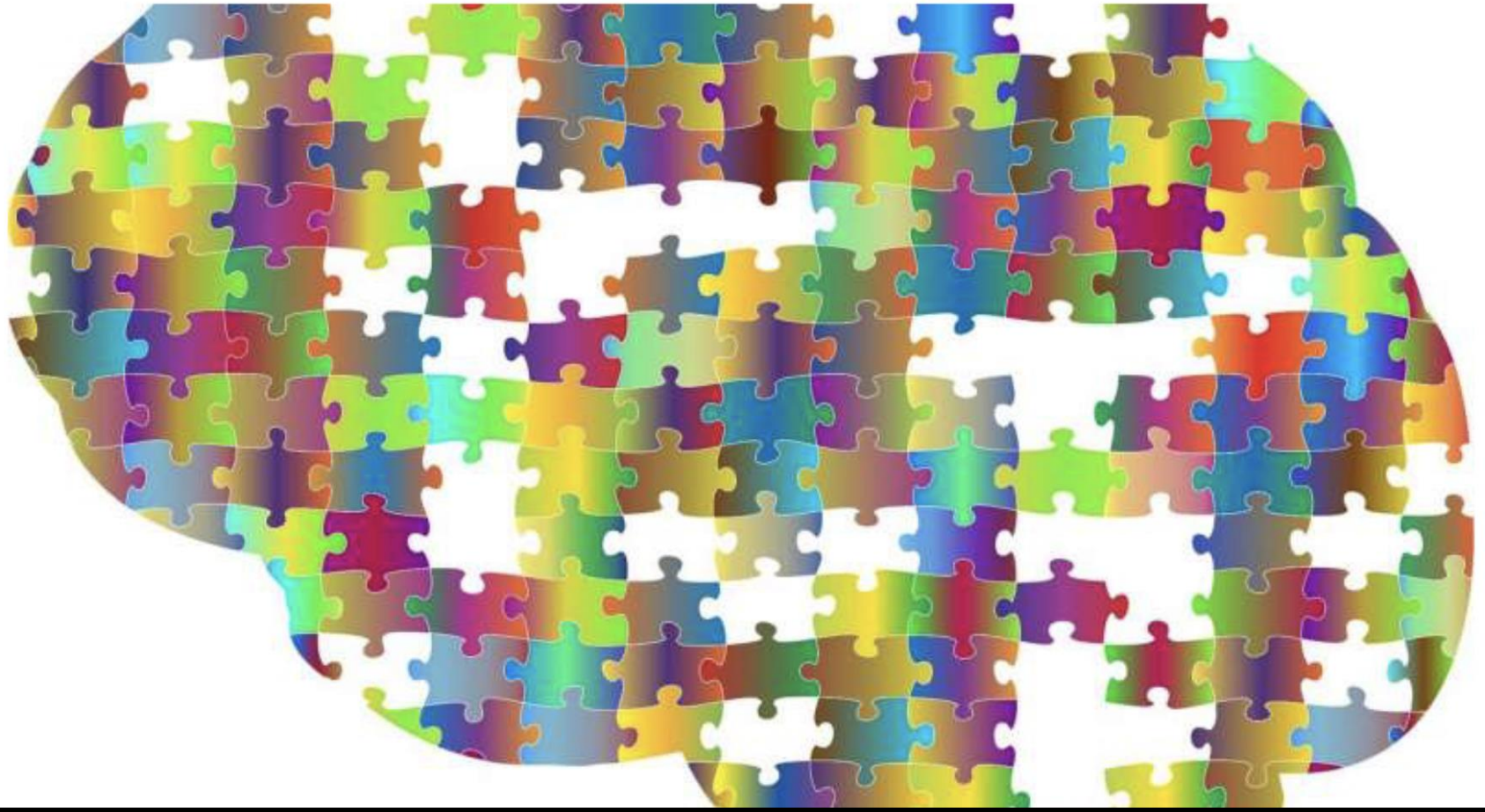
FOR ONCOLOGY

Prof. dr. Michel van Putten

JUNE 4, 2019

AI gives reliable coma outcome prediction

by Wiebe Van Der Veen, University of Twente



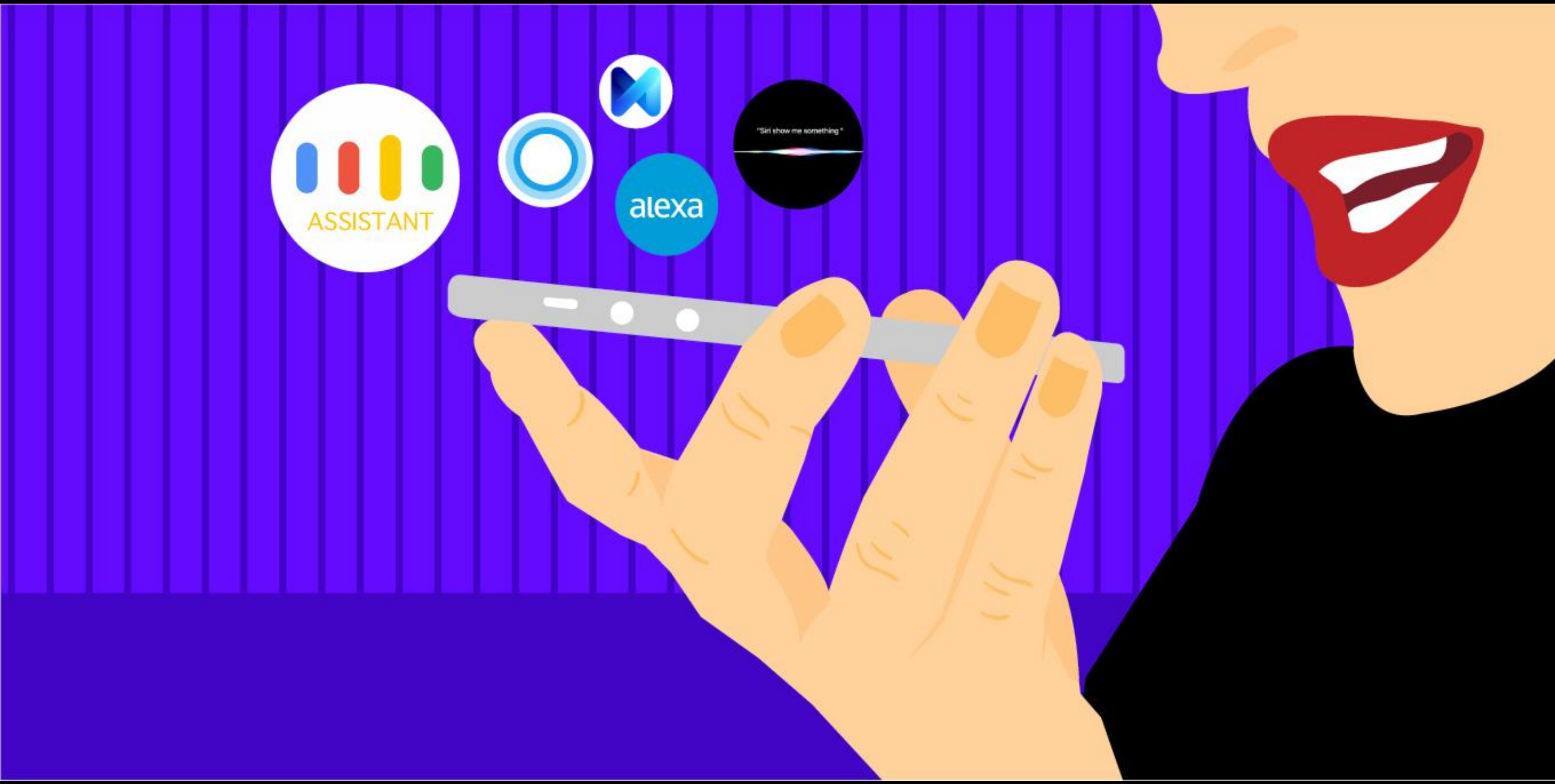
IEEE SPECTRUM

FOR THE TECHNOLOGY INSIDER | 07.17

Your Smartphone Will See You Now

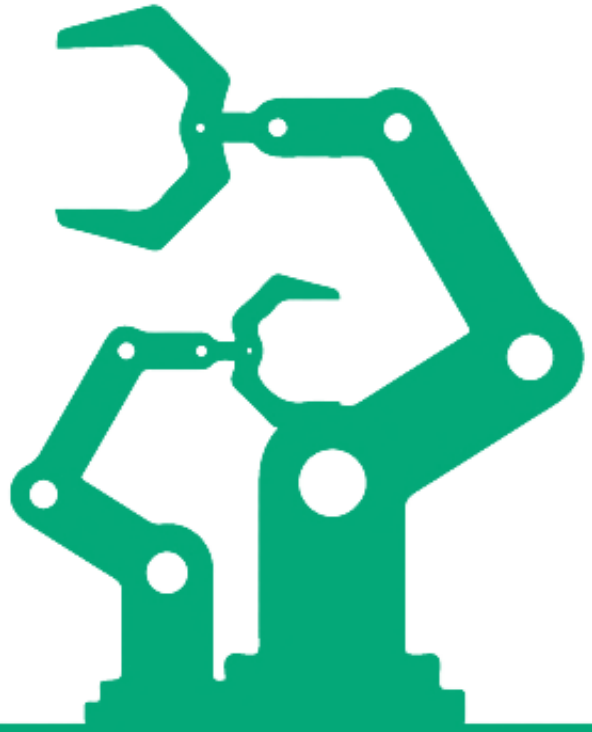
Digital psychiatry apps that collect and monitor data can spot when something's wrong—and then help you get back on track P. 44

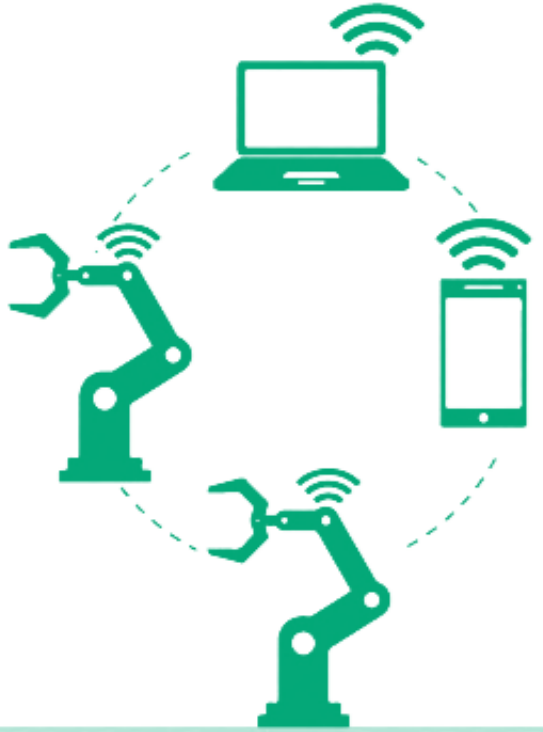
IEEE


ASSISTANT
alexa
"Siri show me something."

AI ETHICS: ‘FAT’ PRINCIPLES

- **Fairness:**
  no bias or discrimination
- **Accountability:**
  responsibility for AI-based decisions
- **Transparency:**
  openness about datasets
  and explainable data processing





INDUSTRY 1.0

MECHANIZATION, WATER POWER, STEAM POWER

INDUSTRY 2.0

MASS PRODUCTION, ASSEMBLY LINE, ELECTRICITY

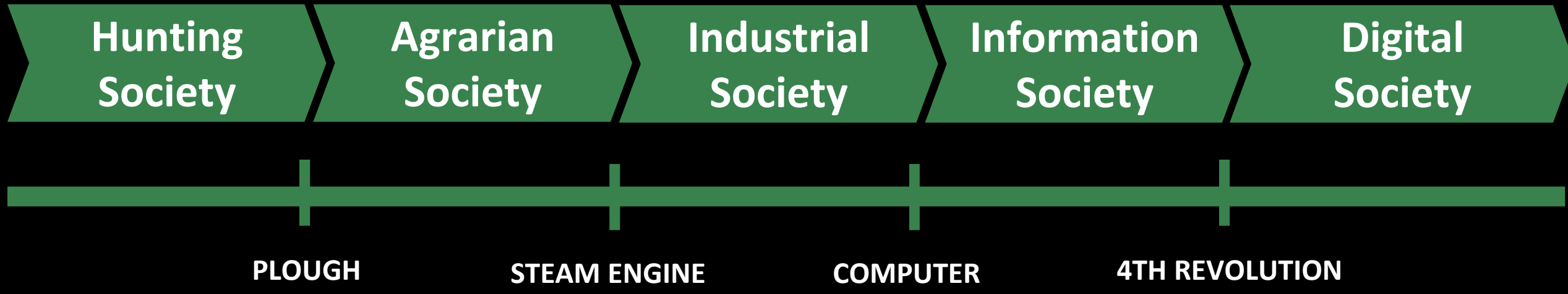
INDUSTRY 3.0

COMPUTER, ELECTRONICS AND AUTOMATION

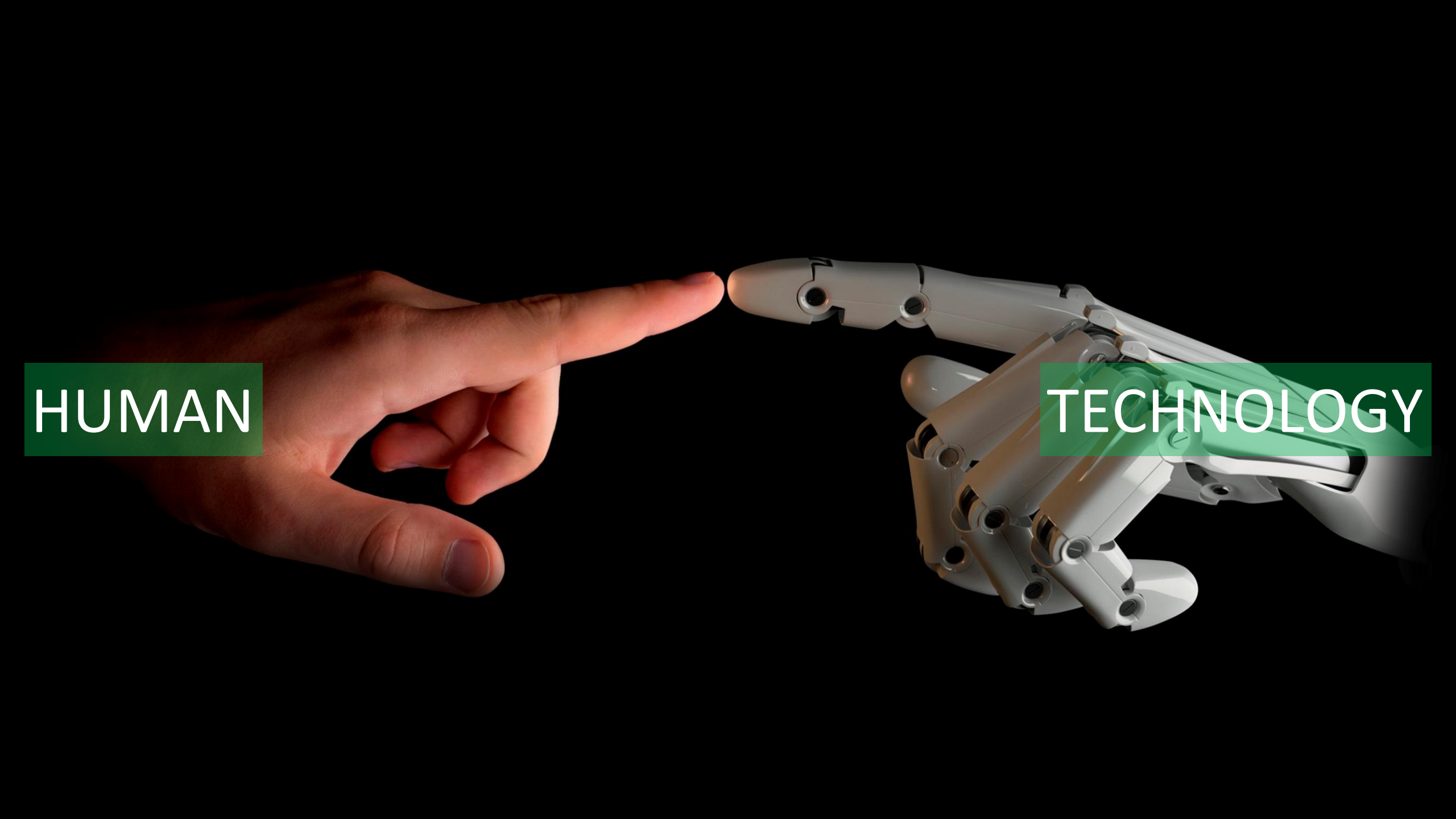
INDUSTRY 4.0

CYBER PHYSICAL SYSTEMS

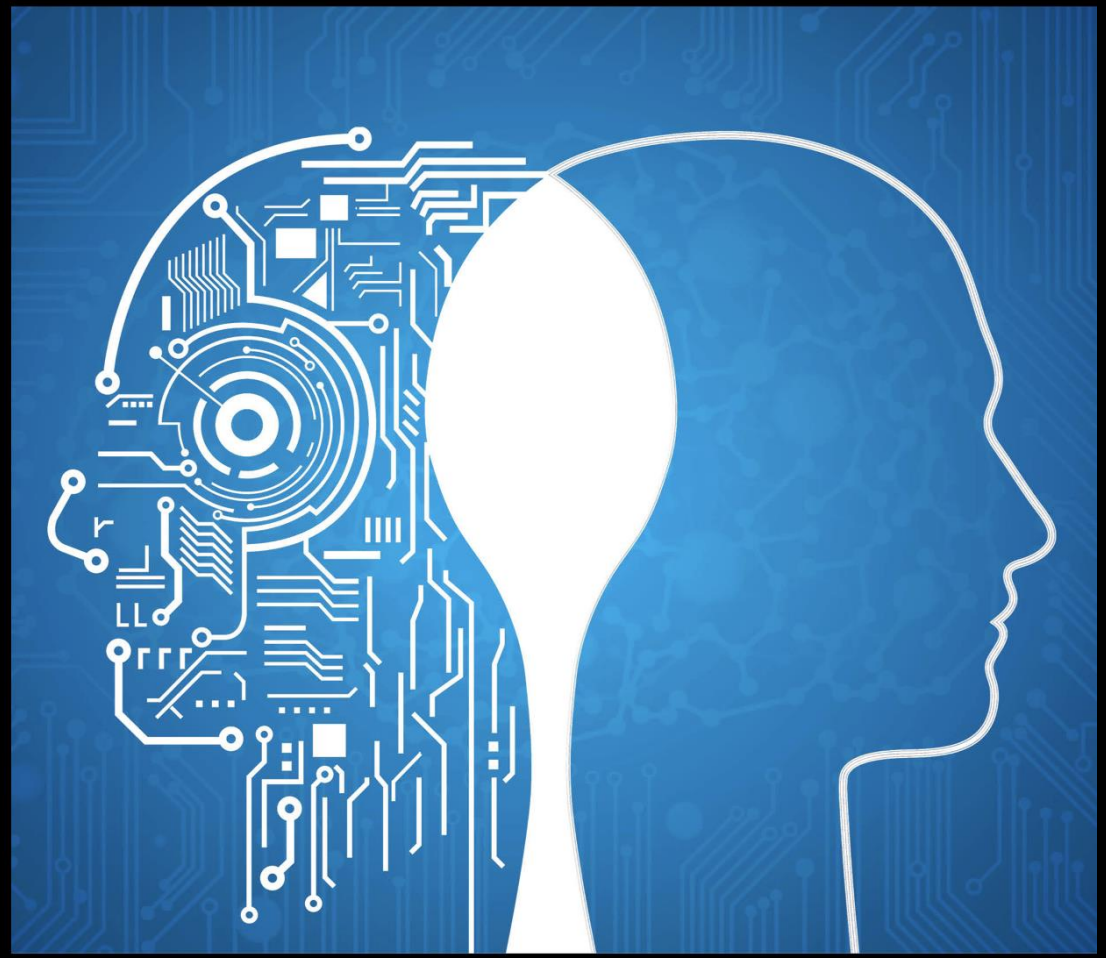
SOCIETY 5.0

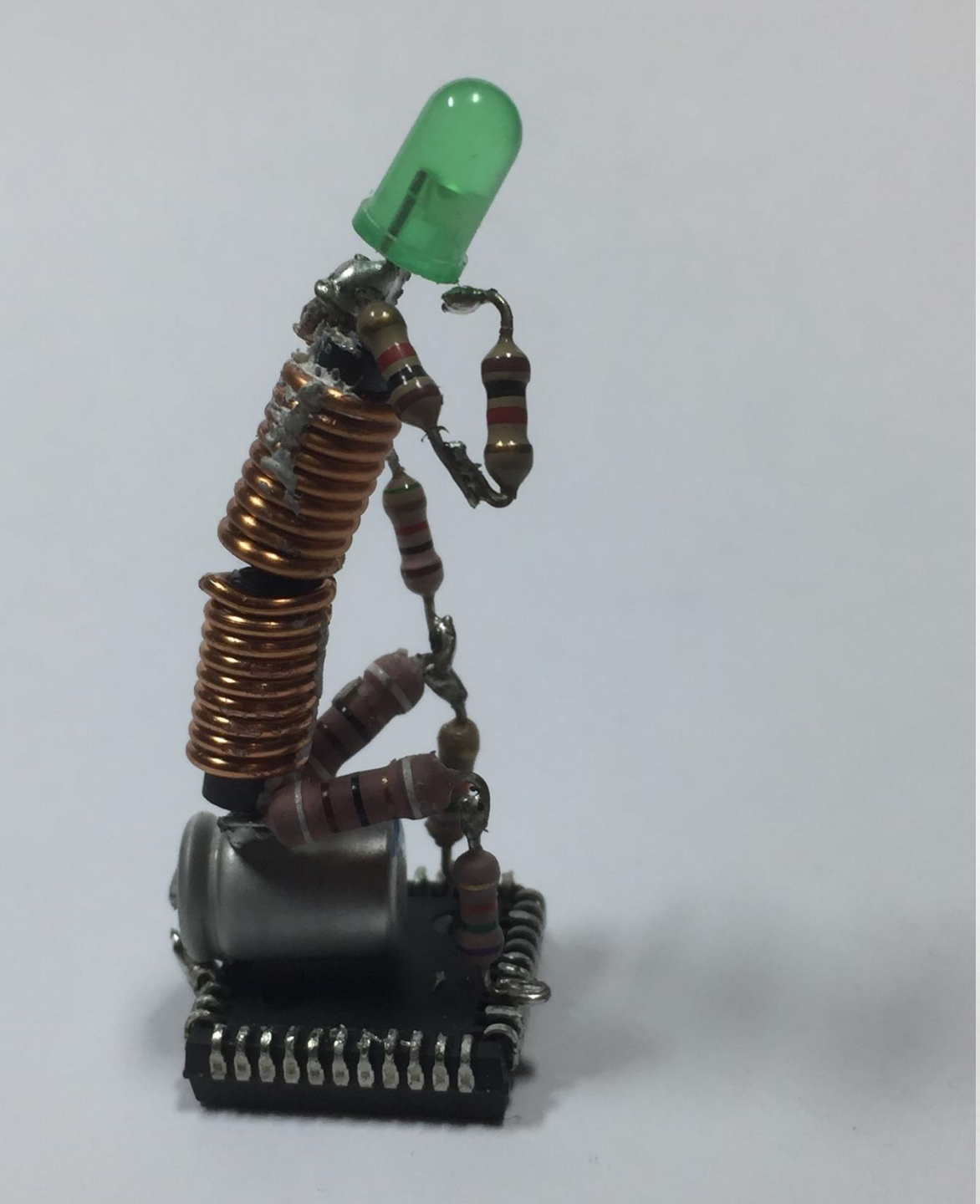

Hunting Society
Agrarian Society
Industrial Society
Information Society
Digital Society
PLOUGH
STEAM ENGINE
COMPUTER
4TH REVOLUTION

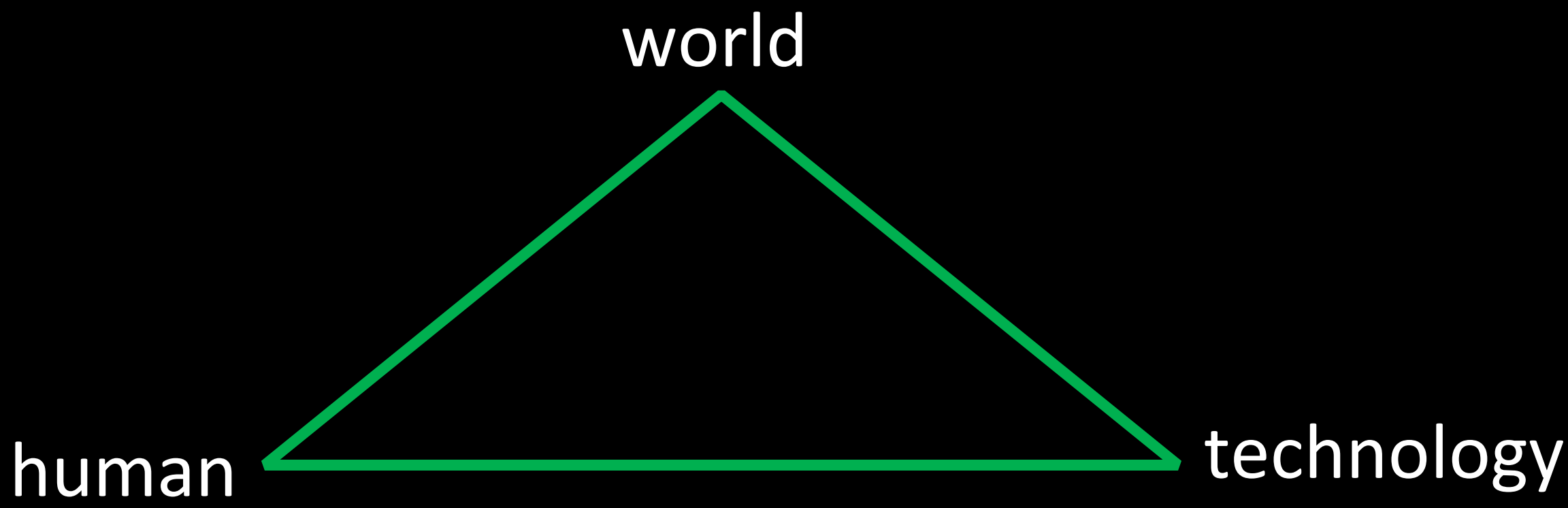

UNESCO

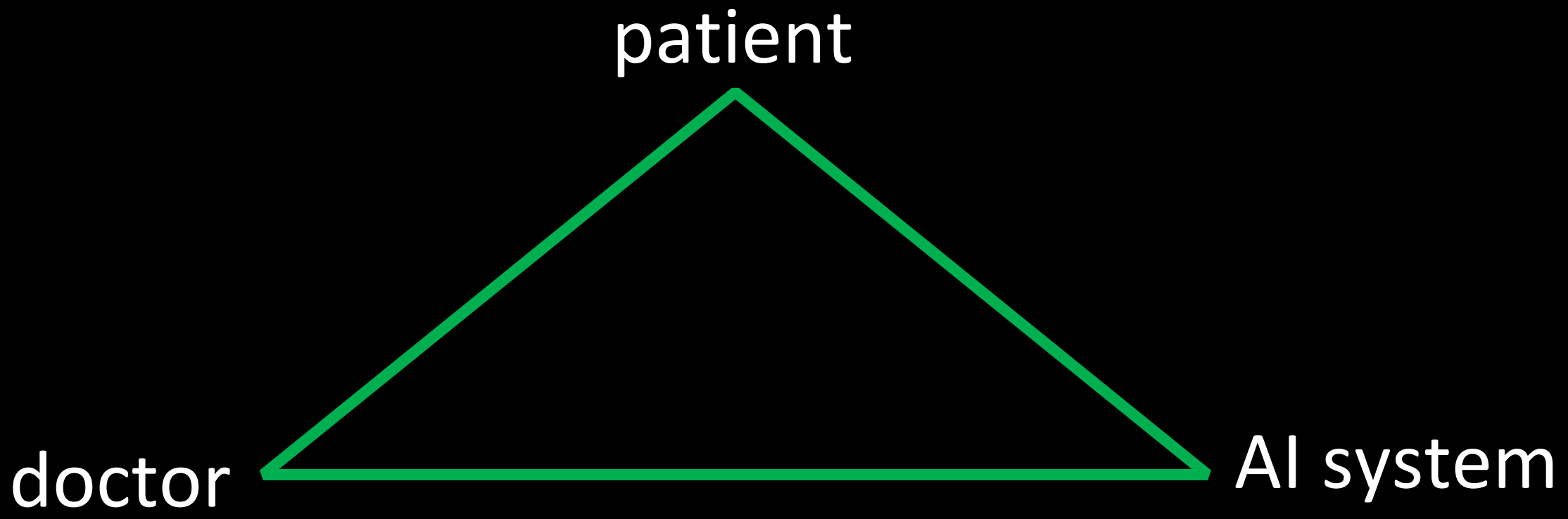

HUMAN
TECHNOLOGY


HUMAN
TECHNOLOGY
WORLD






world
human
technology


patient
doctor
AI system


Human
Technology
World

TECHNOLOGICAL ETHICS

1. **Moral quality of impact of technology**
   - *mediated actions / practices and interpretations / frameworks*
2. **Impact on moral agency**
   - *mediated moral actions and decisions*
3. **Impact on morality**
   - *mediated moral frameworks*

GUIDANCE ETHICS

1

From inside,
not from outside

ACCOMPANIMENT versus
ASSESSMENT

2

Positive,
not negative

FOCUS ON VALUES

3

Bottom-up,
not top-down

CITIZEN ETHICS
STAKEHOLDER ETHICS

Guidance ethics approach