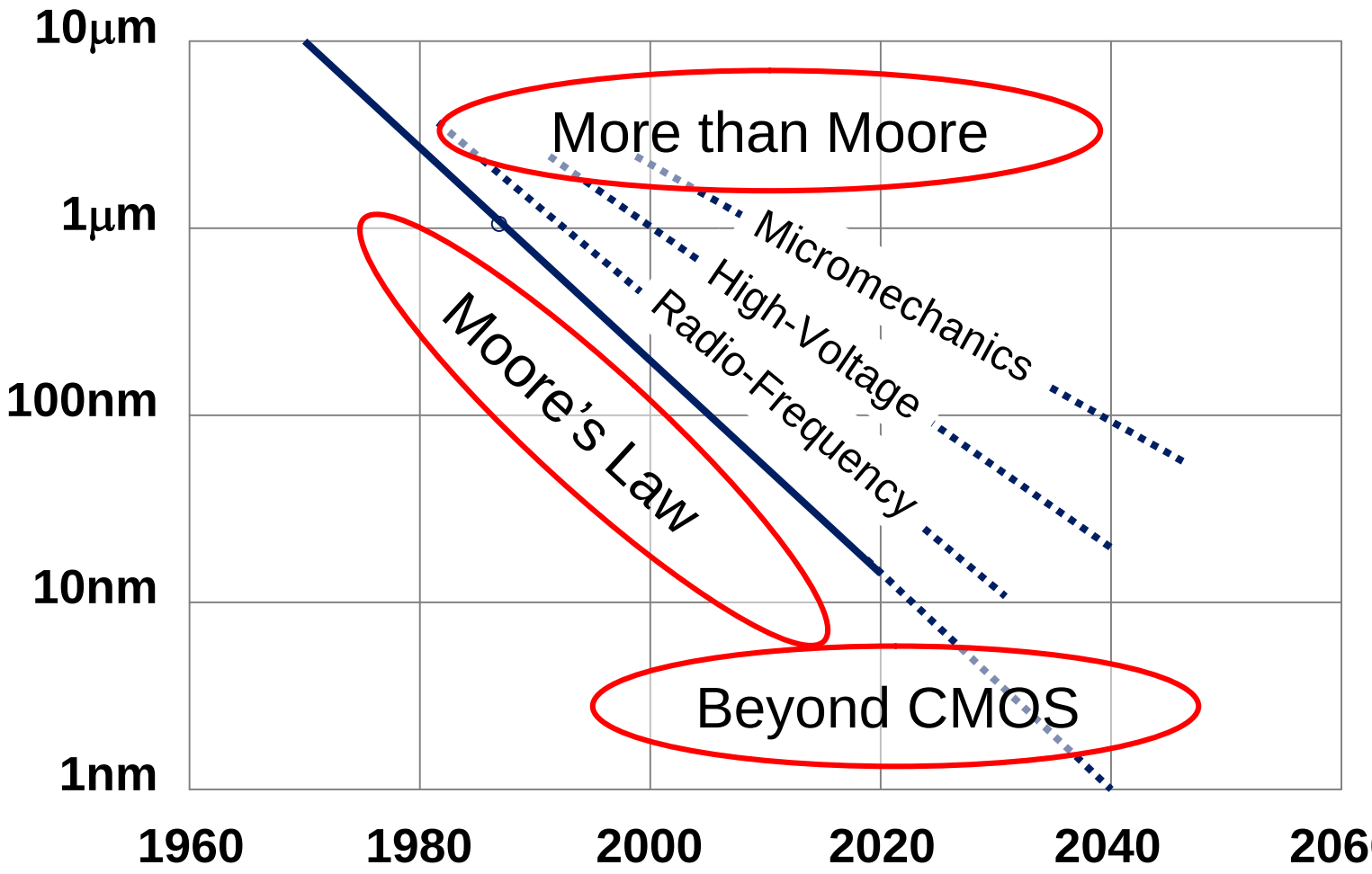
The European Nanoelectronics Initiative

THE ENIAC JOINT UNDERTAKING

CONTENTS OF THE FIRST CALL

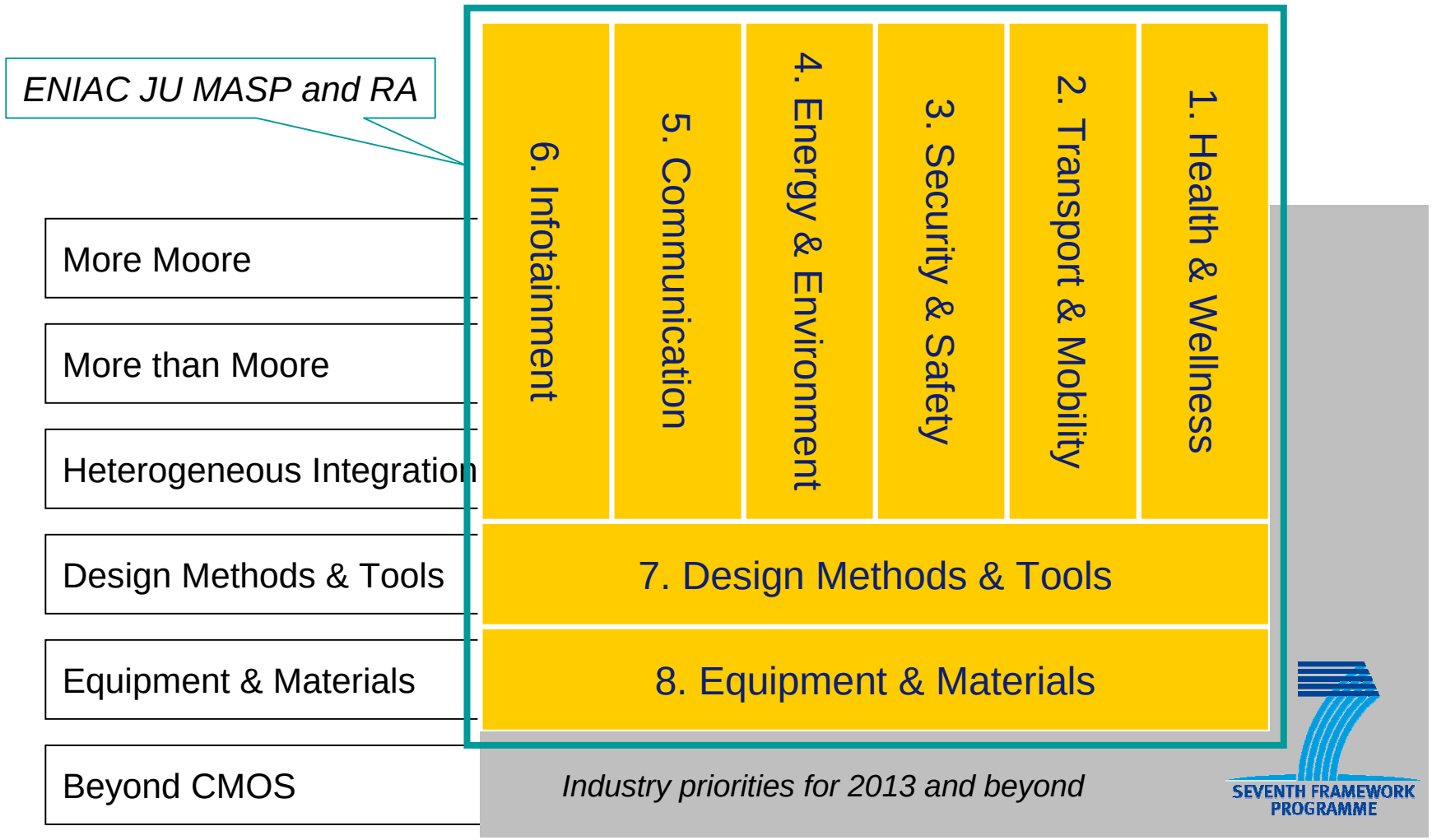
ENIAC provides technical solutions corresponding to its multi-dimensional technology roadmap



Nanoelectronics is
"serving society's needs"

Health	'The Doctor in your Pocket' Real-Time Diagnostics Bio-Chips / Body-Sensors
Mobility / Transport	100% Safety on the Road Integrated Transport Systems Prevention of Pollution
Security	Personal Emergency Systems Protection against Crime and Terrorism Secure Home Environment
Energy	Ultra low power systems Energy saving illumination Energy saving motors
Communication	Seamless Wired / Wireless Access Mobile Services without Compromise Protection of Privacy
Education / Entertainment	Learning Anywhere, Anytime Content with Best Quality (e.g. HDTV) Content Protection

JU sub-program mapping on ENIAC SRA



ENIAC Joint Undertaking Multi-Annual Work Plan

- **Introduction**
  - ENIAC Strategic Research Agenda
  - ENIAC Joint Undertaking
- **Implementation strategy**
  - Scope and focus
  - Priorities and synergies
- **Programs**
  - Nanoelectronics for Health and Wellness
  - Nanoelectronics for Transport and Mobility
  - Nanoelectronics for Security and Safety
  - Nanoelectronics for Energy and Environment
  - Nanoelectronics for Communication
  - Nanoelectronics for Infotainment
  - Design Methods and Tools for Nanoelectronics
  - Equipment and Materials for Nanoelectronics
- **Preparing the roadmap**

Implementation in the Annual Workplan

- The **Annual Workplan** is a subset of the Multi-Annual Strategic Plan
- Selection of topics is done by IRC in consultation with PAB, using the following criteria
  - Industry urgency
  - Synergy with related other JTIs (ARTEMIS, Innovative Medicine, Clean Sky) and ETPs/clusters (EPoSS, Photonics21, CATRENE)
  - Alignment with PA support
- Targeting **vertically integrated projects** in **selected subprograms** leading to representative **demonstrators**
- The Annual Workplans define the technical content of the JU Calls

Focus areas for the ENIAC 2008 and 2009 Calls

2008	SP2. Nanoelectronics for Transport and Mobility SP3. Nanoelectronics for Security and Safety SP4. Nanoelectronics for Energy and Environment SP7. Design Methods and Tools for Nanoelectronics SP8. Equipment and Materials for Nanoelectronics
2009	SP1. Nanoelectronics for Health and Wellness SP5. Nanoelectronics for Communication SP6. Nanoelectronics for Infotainment SP7. Design Methods and Tools for Nanoelectronics SP8. Equipment and Materials for Nanoelectronics

Shortlist for the ENIAC JU 2008 Call

SP2. Nanoelectronics for Transport and Mobility (500 pyr ➔ 25%)

- Components and smart systems for assisted driving
- Components and smart systems for advanced engine/exhaust/combustion control
- Power/HV electronics and smart systems for hybrid and electrical cars
- Fail safe and fault tolerant electronic systems

SP3. Nanoelectronics for Security and Safety (200 pyr ➔ 10%)

- Trusted devices and smart secure portable systems
- All-in-one imaging sensors

SP4. Nanoelectronics for Energy and Environment (400 pyr ➔ 20%)

- Intelligent drive control
- Efficient power supplies and power management solutions

SP7. Design Methods and Tools for Nanoelectronics (300 pyr ➔ 15%)

- Device, circuit, and system variability and reliability
- HW/SW model driven high-level synthesis/flow/reuse/design

SP8. Equipment and Materials for Nanoelectronics (600 pyr ➔ 30%)

- Advanced line operation for European device makers
- Lithography process for beyond 32nm manufacturing
- Assembling technology for system-in-package

Project Ideas – May 2008

Safe Car - denis.mazerolle@3-5fab.fr

E – Car - herbert.roedig@infineon.com

New secure devices for privacy and trust in Europe by 2015

- bernard.candaele@fr.thalesgroup.com

All-in-one imaging sensors

- monique.renaud@thalesgroup.com

Intelligent Drive control

- knut.hufeld@infineon.com

Smart Power Management

- knut.hufeld@infineon.com

Project Ideas – May 2008

Modeling and Design of reliable, process varation-aware Nanoelectronic devices, circuits and systems (”MODERN”; focus on TCAD)

- Jean-Pierre Schoellkopf@st.com

SiP integration

- hans-georg.kapitza@suss.com

Lithography beyond 32 nm

- livio.baldi@numonyx.com

Manufacturing Science (“IMPROVE”)

- francois.finck@st.com