



Research Group

# 2 Latar Belakang:

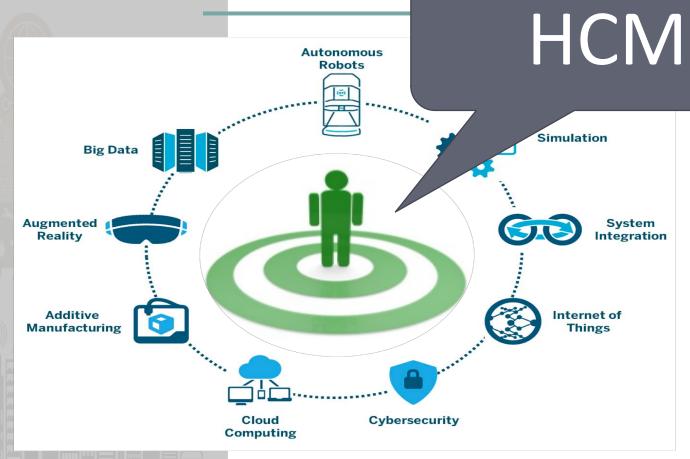
Dengan adanya revolusi Industry 4.0 (4IR) dan Society 5.0, teknologi semakin berkembang dan semakin berimpak terhadap manusia. Untuk mengikuti dan memberikan kontribusi terhadap kesejahteraan dan perkembangan ilmu pengetahuan dibentuklah RG Human-Centric Multimedia. Industrial society Agrarian society **Economic and Hunting** society social innovation 13,000 BC by deepening of

Human Centric Multimedia

Society 5.0

Source: Prepared based on materials from the Japan Business Federation (Keidanren)

# 3 Tujuan & Teknologi dibalik Industry 4 O



SMART Life

# Mengadopsi: Technology Stack of IoE

Untuk mempermudah penelitian, kita menganut layering pada IoT Architectural Layer



n Centric Multimedia

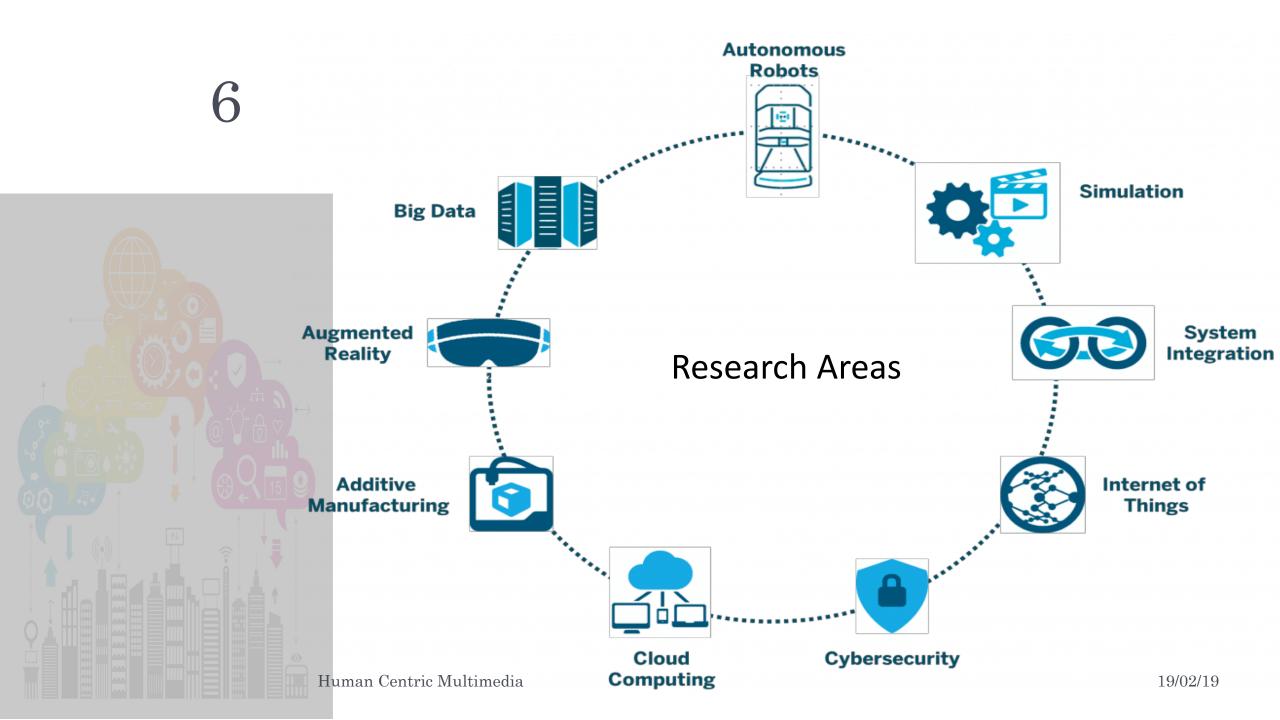
# 5 Pembentukan Research Group "Human Centric Multimedia"

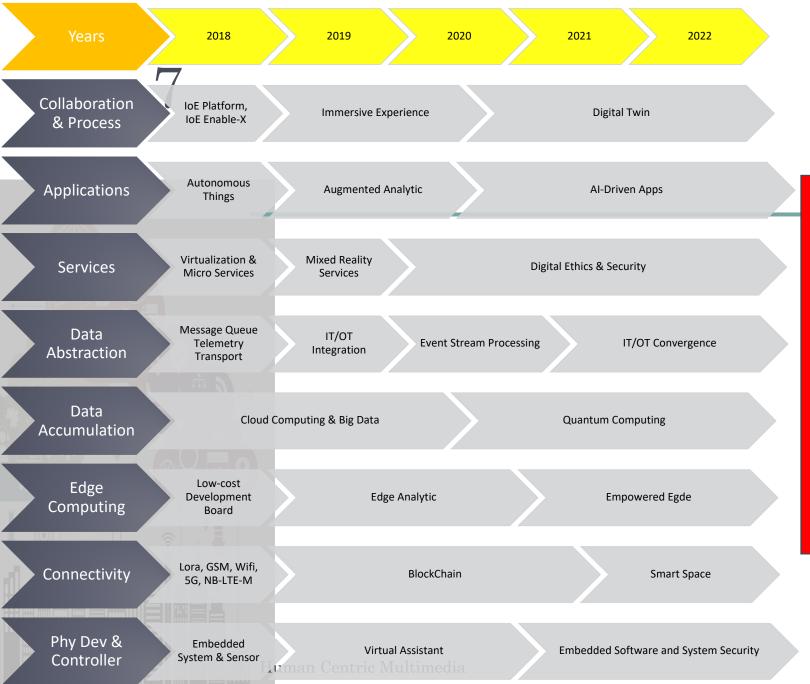
### Vision

To be the Centre of excellence in Research Group in the field of Human Centric &
 Multimedia nationally and Internationally

### Mission

- Conduct research to combine or integrate the Internet of Everything technologies for the development or discovery of a new technology to the benefit of the community based on Human Centric
- Actively participate in developing and implementing the Internet of Everything technologies for Human Centric in Indonesia as the national research group



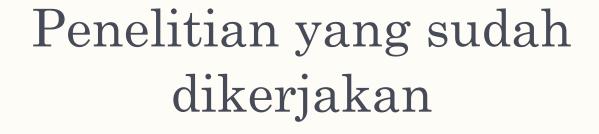


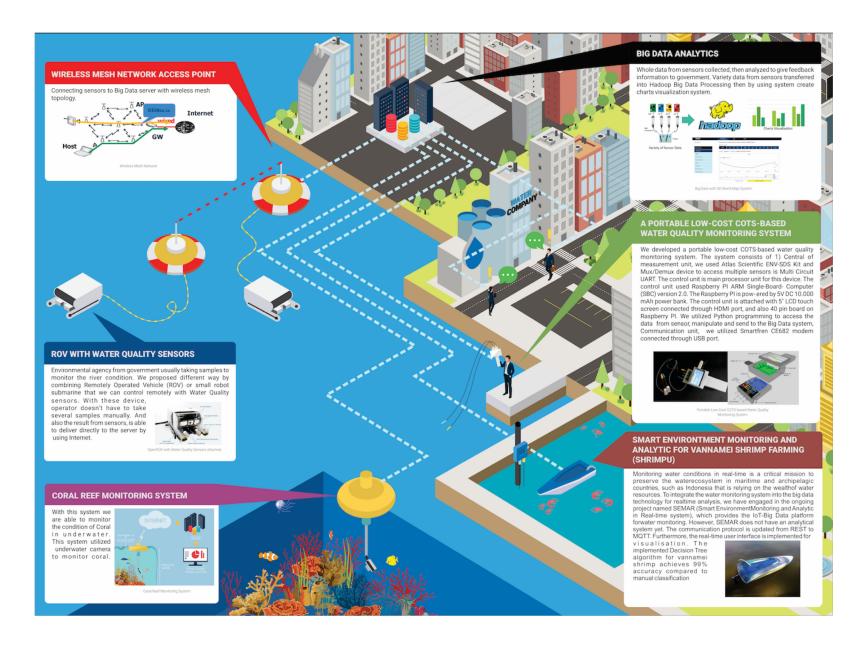
## Roadmap

Integration Solution for

- Autonomous Robot
- Integration System
- IoT
- Cyber Security
- Cloud Computing
- Additive
  Manufacturing
- AR/VR/MR
- Big Data
- Blockchain







### SEMAR

**ROV** with water Sensors

Wireless MESH

Portable water mon

Coral monitoring

Shrimpu monitoring

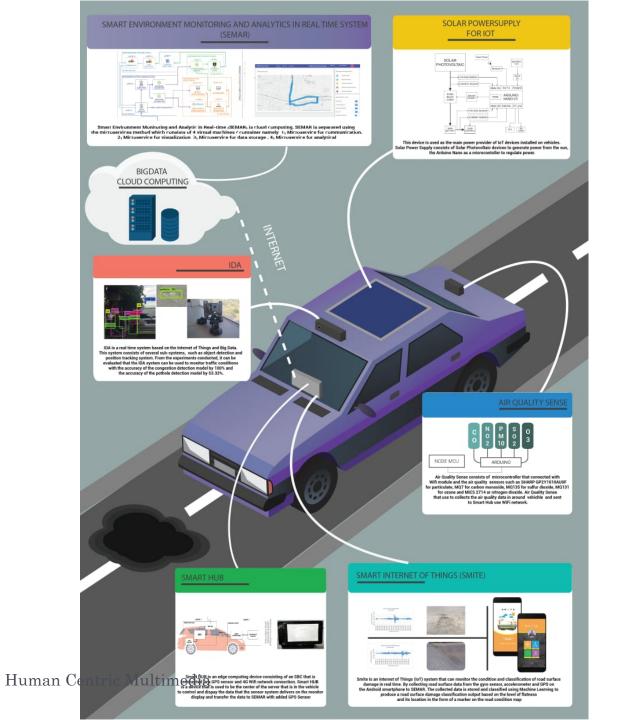
Big Data Analytics







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### VaaMSN

Vehicle as a Mobile Sensror Network

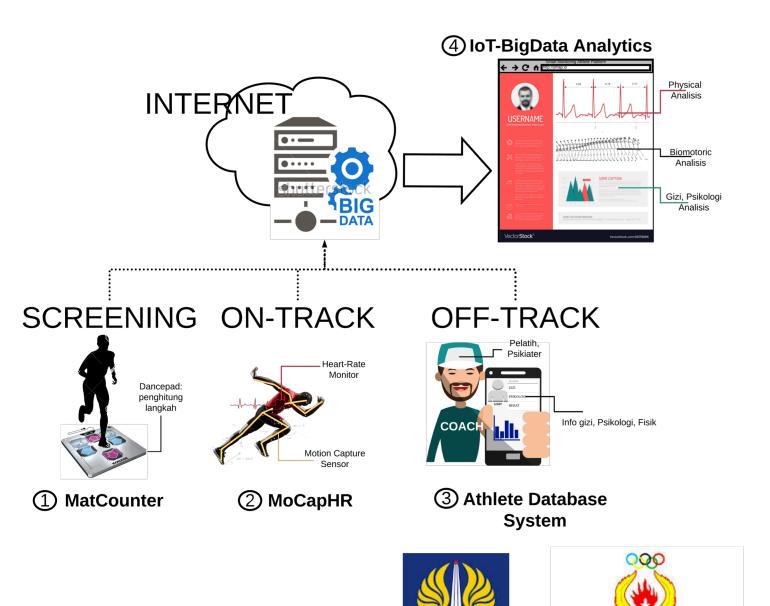
Air Monitoring

Pothole monitoring

**Deep Learning** 

SEMAR v2







## Smart Athletic Monitoring Platform

Motion capture

HR

**Nutrition** 

VR/AR

**Analytic Platfrom** 



19/02/19

(KONI)

## 12 Members

- Ketua: Sritrusta Sukaridhoto (IoT, AI, Computer Network, Multimedia)
- Members:
  - M Agus Z (Communication, Security, Broadcasting)
  - Hestiasari R (Multimedia, UI/UX, HCI)
  - Dwi Kurnia B (Modeling, ML, Human Computer Interaction)
  - AR Anom B (Embedded System, IoT, Robotic, BigData)
  - Iwan K (Robotic, Embedded System)
  - Dias A (Linguistic, HCI)

Human Centric Multimedia

## 13 Collaboration



#### Collaborator

- Titon Dutono
- Dadet Pramadihanto
- Amang Sudarsono
- Achmad Basuki
- M Udin Harun AR
- Anang Tjahjono
- Dwi Kurnia Basuki
- Adnan Rachmat Anom B
- Eric
- Rahardhita

#### – MoU

- Okayama Univ, Japan
- Keio Univ Japan
- PT Eyro Digital Teknologi
- Pesantren Sidogiri
- KONI Jatim
- UNESA
- UNUSA
- CISCO System Indonesia
- ICHII Industry
- TMMIN
- Quantum-HRM
- AWG Market

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### 14 References:



- Wang, Fei-Yue, et al. "Societies 5.0: A new paradigm for computational social systems research." *IEEE Transactions on Computational Social Systems* 5.1 (2018): 2-8.
- Serpanos, Dimitrios. "The cyber-physical systems revolution." Computer 51.3 (2018): 70-73.
- Vermesan, Ovidiu, et al. "Internet of Things Cognitive Transformation Technology Research Trends and Applications." Cognitive Hyperconnected Digital Transformation; Vermesan, O., Bacquet, J., Eds (2017): 17-95.
- Oliveira e Sá, Jorge, et al. "Internet of Things: An evolution of development and research area topics." (2017): 240-247.
- Ng, Irene CL, and Susan YL Wakenshaw. "The Internet-of-Things: Review and research directions." International Journal of Research in Marketing 34.1 (2017): 3-21.
- Wollschlaeger, Martin, Thilo Sauter, and Juergen Jasperneite. "The future of industrial communication: Automation networks in the era of the internet of things and industry 4.0." IEEE Industrial Electronics Magazine 11.1 (2017): 17-27.
- Naranjo, Paola G. Vinueza, et al. "FOCAN: A Fog-supported Smart City Network Architecture for Management of Applications in the Internet of Everything Environments." arXiv preprint arXiv:1710.01801 (2017).

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