

## Realization of a Society that can Use Cybernetic Avatars Safely and Securely

### Project manager

(selected in 2022)

**SHIMPO Fumio**

Professor, Faculty of Policy Management, Keio University



### Leader's institution

Keio University

### R&D institutions

Osaka University, Gakushuin University, Kyoto University, Keio University, International University of Japan, Shizuoka University, University of Tokyo, Reitaku University.

### Summary of the Project

For ensuring safe/ secure use of CA's, (Cybernetic Avatar) in society, we aim to realize an infrastructure for CA safety and security, which will be achieved through CA operator authentication, (user authentication) /proof of operator official CA identity, (CA authentication/notarization). For resolving social and institutional issues to be overcome for the realization of an Avatar lifestyle, we will identify Ethical, Economic, Environmental, Legal, and Social Issues, (E<sup>3</sup>LSI) and develop proposals for the resolution of technical and institutional issues at domestic and international levels. By enhancing the social acceptability of CA's, we aim to open up a world in which CA's become alter egos and interact with other CA's; in other words, a 'New Communication CA Civilization'.

### Milestone by Year 2030

#### 【Building an Infrastructure to Ensure CA Safety and Security】

By building a CA safety and security assurance/social acceptance infrastructure, we aim to realize a society in which everyone can live with extended physical, cognitive and perceptual capabilities. We will deter the impersonation of operators, hijacking of CA's, illegal acquisition of skills and stored CA experience information, (illegal/unauthorized acquisition of skills) and imitation of skills using CA's, and realize a highly reliable CA operating environment.

#### 【E<sup>3</sup>LSI Issues and Policy Development】

E<sup>3</sup>LSI will present an institutional framework for balancing the protection of individual rights/interests with systems related to the CA safety/security infrastructure/safe and secure CA social acceptance

infrastructure. We will establish a research system for solving issues necessary for CA research and development and social implementation, and enable immediate and timely responses to E<sup>3</sup>LSI issues.

### Milestone by Year 2025

By proposing user and CA authentication/CA notarization technologies for the Socio-CA and In-Body CA's developed by other projects, and by accumulating demonstration experiments, the project aims to deter impersonation of operators, CA hijacking and illegal acquisition of technical information stored in CA's, (illegal and unauthorized imitation of skills), we will build the CA safety, security and high-trust infrastructure necessary to realize safe, secure and reliable CA operation. Through examination of the issues necessary for such construction and, accompanied by a comprehensive overview of individual E<sup>3</sup>LSI issues, efforts will be made to establish a system for comprehensive and sustainable research on such issues, for building a research infrastructure for E<sup>3</sup>LSI issues and for policy development of CA research and development in Japan and abroad.

### Project structure

