

# **MultiDimensional (MD) Frame: The Basic Elements of Memory Structure**

**Makoto Toyota**  
T-Method

**Muneo Kitajima**  
National Institute of Advanced Industrial Science and Technology

**Abstract:** Object cognition occurs as follows: collecting information from the environment via perceptual sensors; integrating and segmenting the collected information, centering on visually collected objects; and continuing these processes until the necessary objects to live in the environment are obtained. These objects are then used independently in Systems 1 and 2 of Two Minds, and memorized after integrating related entities associated with each system. Due to the limitation of the brain's processing capability, the range of integration is limited; therefore, System 1 memory and System 2 memory may differ. However, they may share objects originating from perceptual sensors. Thus, when objects that are the result of the just-finished integration and segmentation process are processed in the next cycle, representation of the objects may serve as the common elements to combine System 1 memory and System 2 memory to form an intersystem memory. We call this memory the MultiDimensional (MD) Frame.