

The research within the scope of ASCENS is broken down into eight work packages in four strands of research:

- WP1 and WP5 are concerned with a language and verification for service component ensembles,
- WPs 2, 3, and 4 will address the theory of self-aware, self-expressive and self-adaptive ensembles,
- WP7 concern the [case studies](#) , and
- WPs 6 and 8 deal with pragmatic tool development and software engineering.

In order to achieve the project objectives, a multidisciplinary approach to service components and service-component ensembles development will be chosen which integrates deep theoretical knowledge about self-awareness and self-expression with pragmatic engineering techniques based on practical experience from the partners working in the case study application domains.

The goal of ASCENS is to develop a coherent, integrated set of methods and tools to build self-aware, self-adaptive and self-expressive systems that can

- a) operate in open-ended, non-deterministic environments,
- b) perform in a reliable, predictable manner,
- c) adapt to changing environments or requirements, and
- d) handle failures of individual nodes.

The results of the project are reported in work package [deliverables and joint deliverables](#).