

Innovation in GI teaching and learning: a case-based approach

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About giCASES

giCASES – Creating a University-Enterprise Alliance for a Spatially Enabled Society – is a Knowledge Alliance co-funded within the EC ERASMUS+ Programme.

General objectives :

- ✓ To enable and strengthen innovation in GI education and industry.
- ✓ To facilitate the collaborative creation, management and sharing of knowledge.

These objectives are addressed by developing new, innovative and multidisciplinary approaches to teaching and learning within the Geographic Information (GI) sector, and facilitating the exchange, flow and co-creation of knowledge.

In particular, giCASES aims to:

- ✓ Improve the quality and relevance of GI courses provided by the University members of the consortium.
- ✓ Facilitate the growth of new knowledge-sharing processes and tools between enterprises and universities.
- ✓ Improve the management of knowledge by the partners.

The overall approach to address these objectives is to develop new learning material and processes based on case-based learning. In the approach taken in the project, enterprises and academia collaborate both when creating learning material based on real cases and also during and after the courses (through a collaborative platform).

Modelling the learning process

Co-creation of knowledge is the process through which two or more organizations and/or actors interact with each other in a collaborative fashion to generate learning content and gain common insights.

The **process patterns** of case-based learning and co-creation of knowledge have been classified according to their **degree of collaboration** and their **type of output**.

- ❖ The **degree of collaboration** of a process may be classified as: 1) an “autonomous process” (there is no collaboration at all between the partners), 2) a “shared process” (each partner performs its own tasks independently under a common agreement) or 3) a “collaborative process” (all partners cooperate and contribute to the result)
- ❖ According to the **type of output**, the processes of co-creation of knowledge may be classified according to the main result(s) achieved as: “learning material” and/or “training/education”.

By combining these classification schemes there are in total six possible process patterns modelled.

Among them, 4 collaboration patterns have been identified and described using **BPMN** (Business Process Model and Notation) diagrams:

- 1) Shared Development of Learning Material (see Figure 1),
- 2) Collaborative Development of Learning Material (see Figure 2)
- 3) Shared Provision of Training (see Figure 3)
- 4) Internship (see Figure 4)

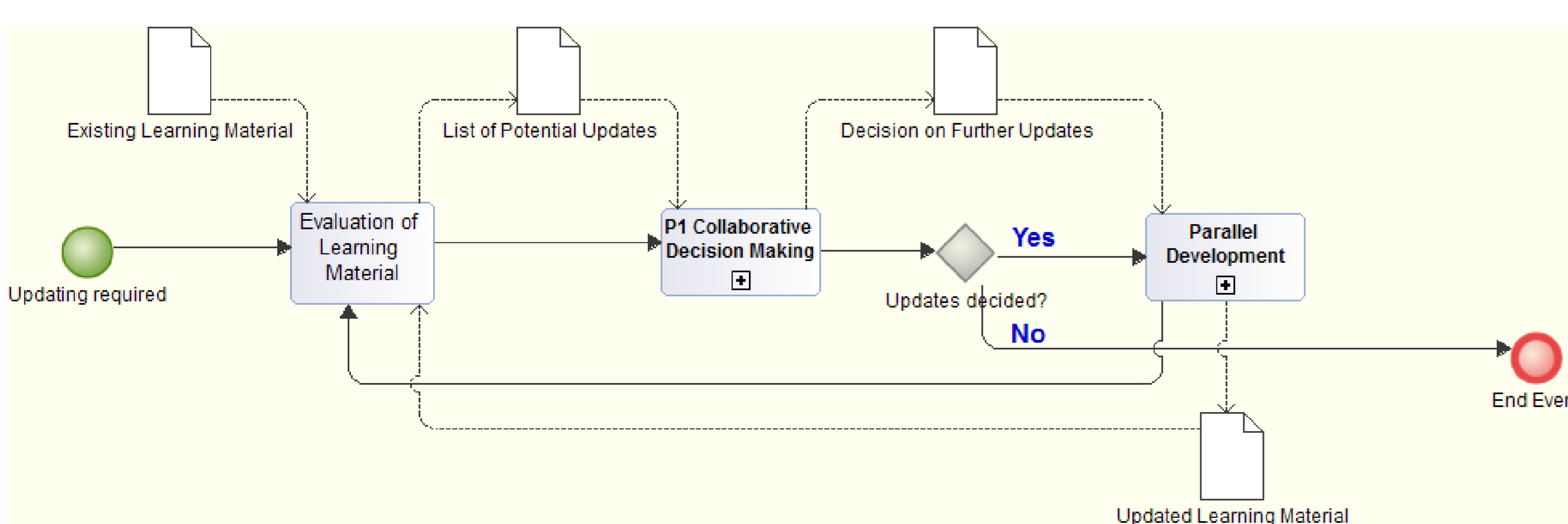
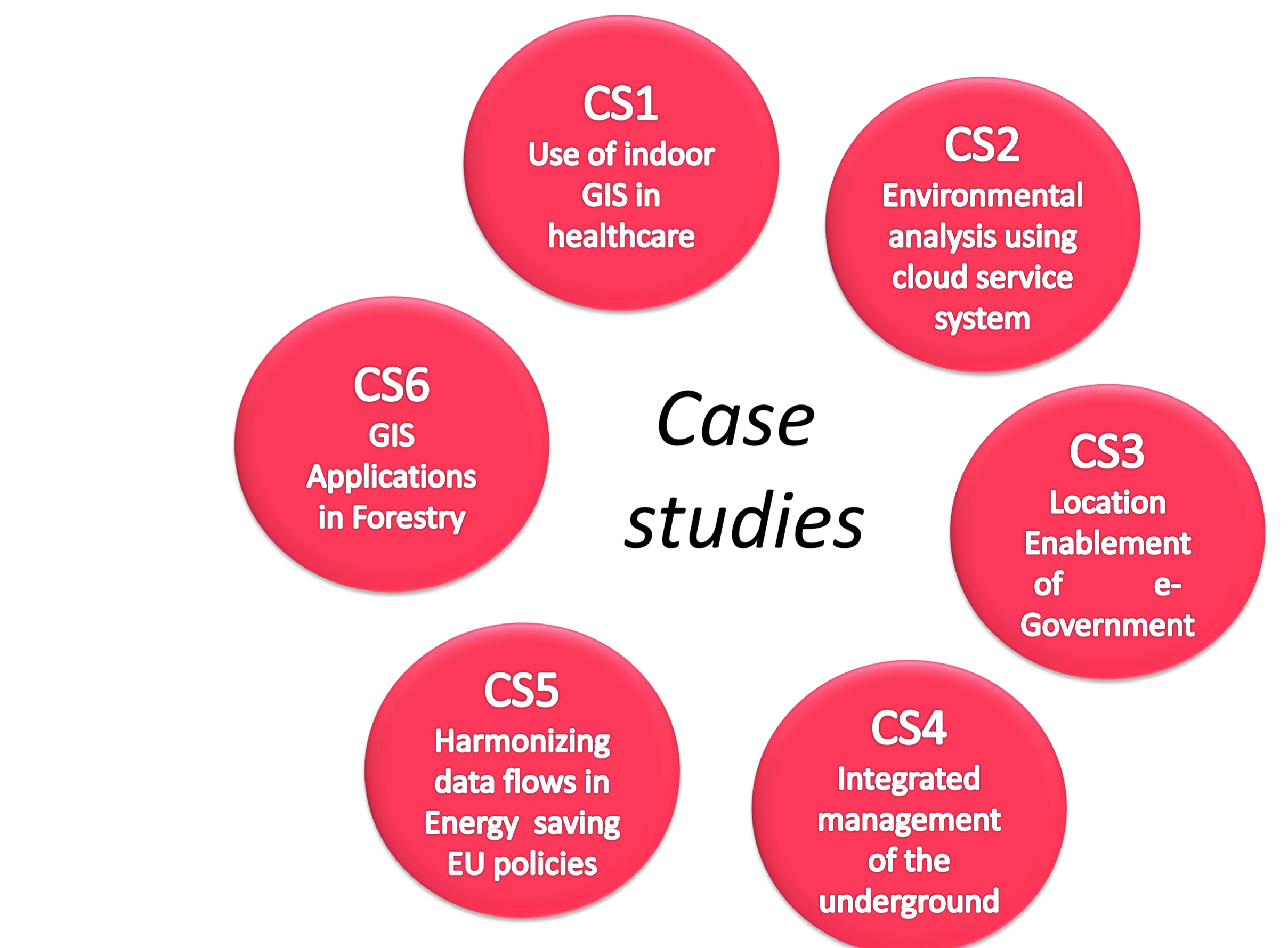


Figure 1: BPMN diagrams for 1 - Shared Development of Learning Material



- ❖ Case studies start from the description of real-world problems, which tackle specific topics and issues in the GI domain and have well-defined scopes, learning outcomes, time frames (beginning and end dates), actors and corresponding roles, and are addressed in a practical learning environment.
- ❖ Case-based learning also requires new ways of developing accompanying learning material (usually starting from existing learning material).

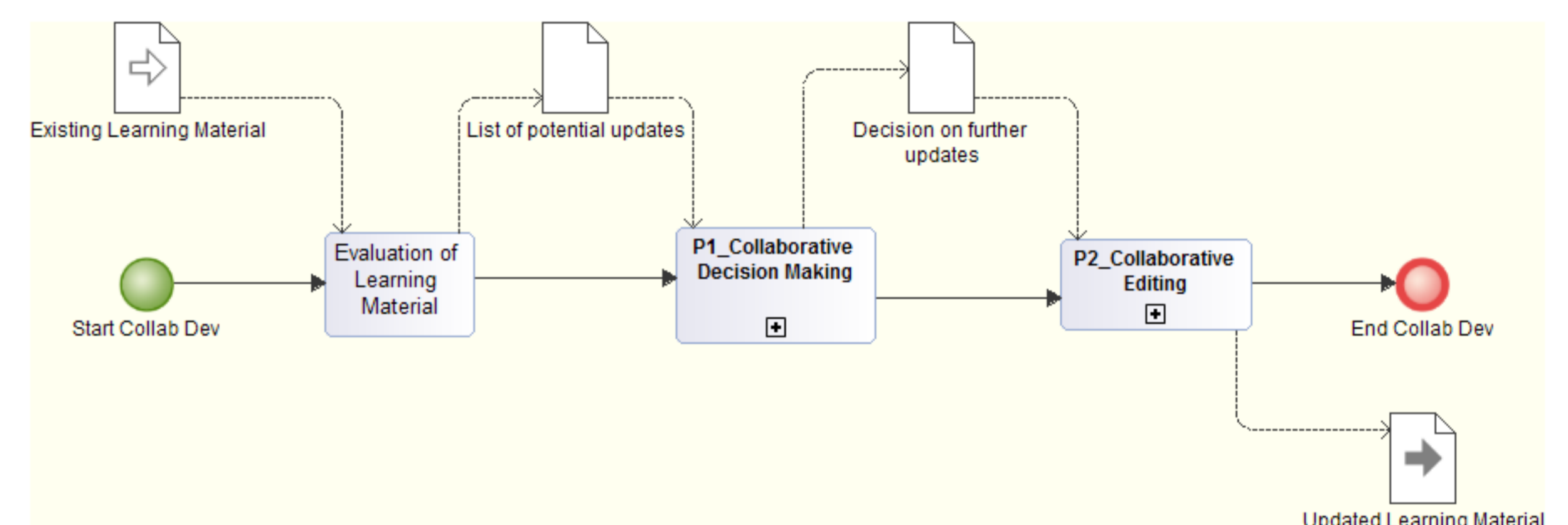


Figure 2: BPMN diagrams for 2 - Collaborative Development of Learning Material

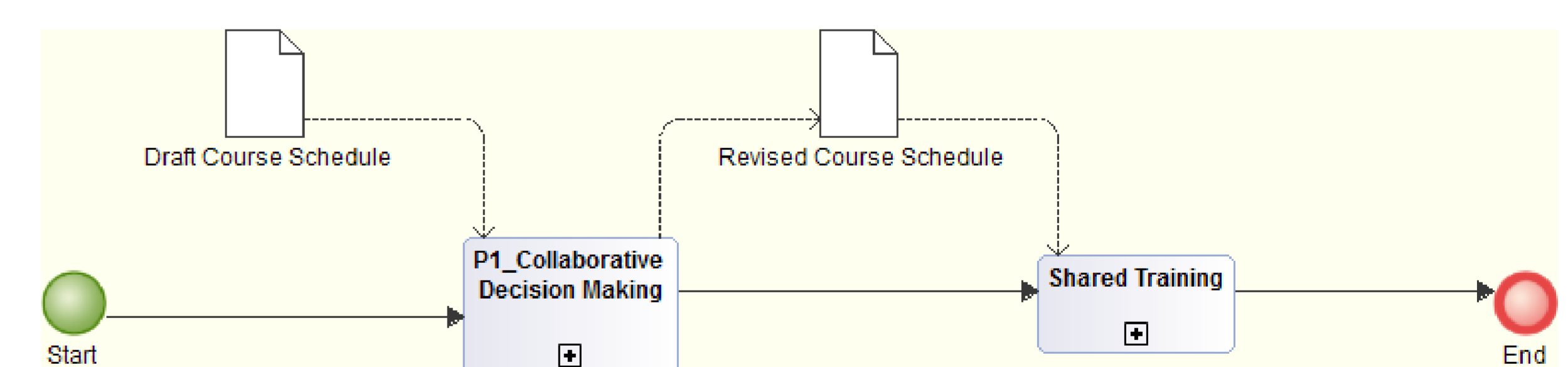


Figure 3: BPMN diagrams for 3 - Shared Provision of Training

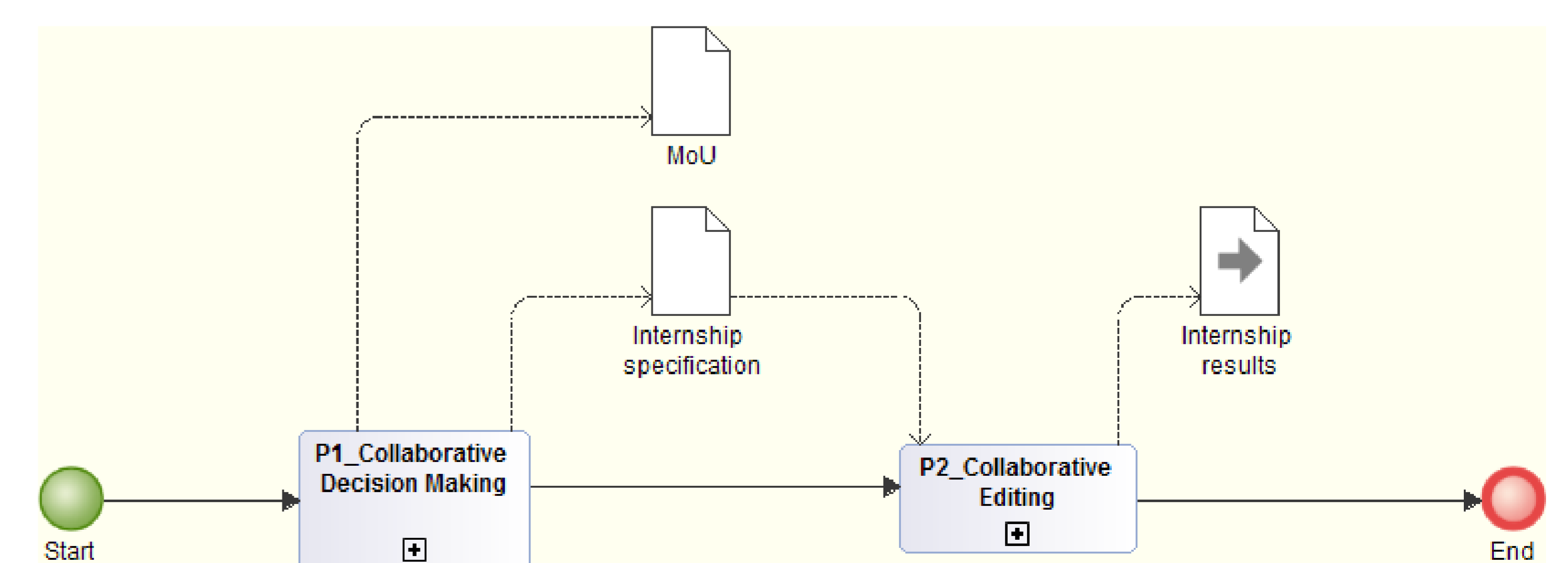


Figure 4: BPMN diagrams for 4 - Internship

