Science 2 Society

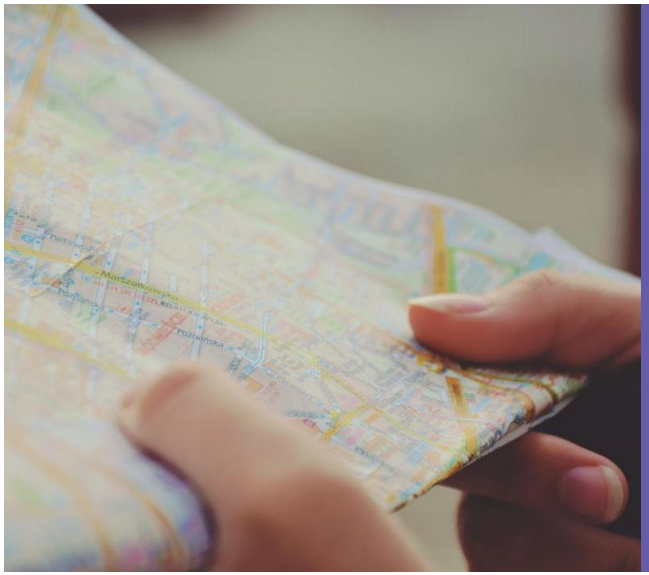
Blueprints – Co-location

University – Industry Interaction Mechanisms 2.0

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 693651

www.science2society.eu

Establishing industry innovation labs within universities



PROJECT TEAM – CO-LOCATION

CIT-UPC
Pablo Romero (p.romero@upc.edu)
Juan Pérez (j.perez@upc.edu)

CA Technologies
Dòrica Munell (dorica.munell@ca.com)
David Sánchez (david.sanchez@ca.com)

Co-Location (Definition)

*Among all the collaborative schemes between University and Industry, co-location provides a unique opportunity to achieve benefits at all levels. Co-location is a partnership that involves "The **purposeful combination** of industry and university **personnel** in a **dedicated space** in which costs are shared for **active collaborative or independent research,** with the strategic intent of **encouraging idea exchange** by **reducing communication and cultural barriers** that accompany the physical challenge of being located in different facilities".*[1]

1 *«Co-Locating Industry Personnel on University Campuses: A Guide for Navigating the Complexities of Co-Location». University Industry Partnership Demonstration, 2017.*

Co-location

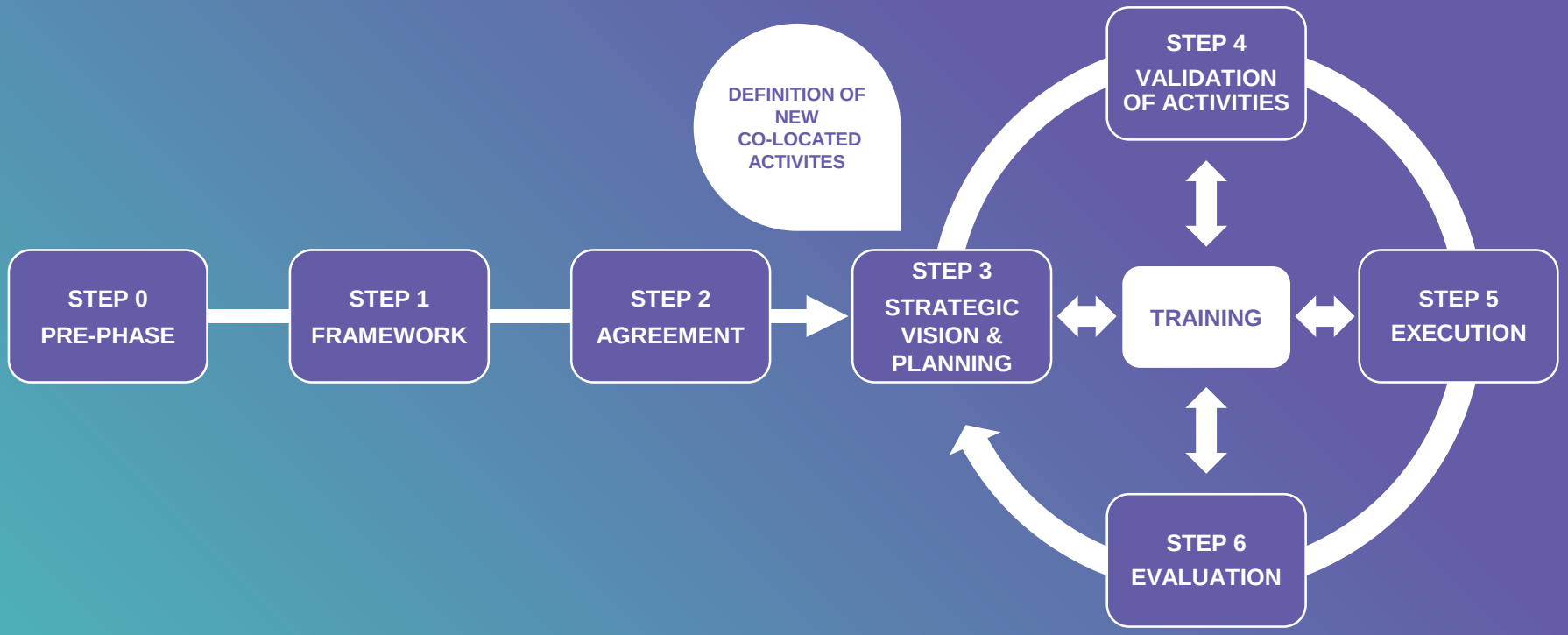
MOTIVATION

- After several short-term collaborations, University and Industry may decide to go a step further and agree to foster a long-term partnership. Co-location includes additional elements and faces new challenges, as compared to the previous relationship:
  - **The co-located team**, formed by both university and industrial staff, requires time to accommodate.
  - **The long-term objectives** of both parties should be aligned in the framework of the partnership.
  - **A framework agreement** should be defined to fit the long-term nature of the co-location, reducing the need to re-discuss contractual issues as the collaboration grows.
  - **A dedicated contact point** should be defined in order to facilitate the partnership and take maximum advantage of the collaboration.

GOAL

- The university-industry co-location scheme allows for a more efficient **ideation of new products and research lines** by increasing the permeability and insight into each other's activities through proximity. This is made possible through:
  - The **efficient use** of industry and university personnel and resources in a **shared space**.
  - Enabling a **daily basis interaction** and reducing communication and cultural barriers.
  - The definition of an **agreed long term strategic vision** supporting collaborative research.

Process overview



I. BACKGROUND

Previous collaboration on research projects is the ideal starting point to achieve the trust level required for a long-term partnership.

II. EXECUTIVE DECISION & CONTRACTUAL TERMS

Co-location is a **long-term strategic collaboration**, framework, where contractual terms must be carefully considered and agreed (intellectual property, legal issues, financial provisions, duration, logistics, teams, contact points). Flexibility and mutual understanding are required to take into account the particularities of both organisations.

III. IMPLEMENTATION OF THE CO-LOCATION

Implementing a co-location involves the definition of a **well-trained and highly motivated co-located team**. The team jointly generates and executes research projects, whose output is assessed to improve performance. **Building team trust** and motivation are key factors for a top-performing co-located team. Creating an **evaluation framework** based on a **clear strategic vision** is also a key element to succeed.

STEP 0

Pre-Phase

- A company and a university have built a relationship of trust through previous joint research.
- The company and the university are considering formalising a research collaboration. After analysing the different possibilities, they decide to co-locate and work together in a shared space. This decision is normally based on one or several common benefits:
  - **Educational:** to jointly train future workforce.
  - **Product innovation:** to boost market-validation of research-based innovations.
  - **Financial:** to share costs of research and equipment.
- **Decision:** both organisations agree to start conversations to formalise a long-term collaborative research partnership through co-location.

ENABLING ELEMENTS

- Organisational trust built with previous joint collaboration(s).
- Mutually beneficial topics of research with impact on the university and business.

TIMEFRAME

5 to 10 years

STEP 1
Establishing the co-location framework

- First conversations on co-location: **upper management** from both organisations discuss all relevant topics in the co-location framework:
  - IP and other legal issues, financial provisions, duration, logistics (shared space and infrastructure), areas of knowledge, human resources assigned, etc.
- Preliminary intentions, research lines and resources are summarized in a **Memorandum of Understanding**.
- Agreement is written and reviewed by both **legal departments.**

STEP 2
Agreement

- Agreement is signed to establish a co-location collaboration framework.

MAIN ACTORS

- **I** Research Coordinator (Step 1)
- **I** Legal & finance (Step 1&2)
- **I** Program Manager (Step 2)
- **U** Government Council (Step 1&2)
- **U** Technology Transfer Office & legal (Step 1)

ENABLING ELEMENTS

- Trust from previous collaboration.
- Transparent communication.
- Clearly identify and accept a win-win situation.
- Agree on a shared long-term strategy.

ESTIMATED TIMEFRAME

Step 1: 4 – 10 months

Step 2: 1 month

STEPS 1 & 2

Establishing the co-location framework & agreement

CHALLENGES & TIPS

Insights

CO-LOCATION FRAMEWORK

- Understand the complexities of each organisation and build expectations and commitments according to them.
- Sign a Non-Disclosure Agreement before starting in-depth discussions.
- Start conversations on Intellectual Property (IP) and other legal issues, financial provisions, duration, logistics (shared space and infrastructure), areas of knowledge, etc. before drafting an agreement.
- Use a broad framework contract and then addenda for special circumstances (each specific activity) for easy collaboration. Anticipate conflict of interest.
- Co-location should be part of each organisation's strategy/roadmap and should be deeply rooted within the organisation. Changes in management should not interfere in or damage the co-location framework.
- Appoint the co-location team: university and industry teams for research activities, management team for contractual terms and a contact point to accelerate and facilitate interactions and get the best out of the relationship.

STEPS 1 & 2

Establishing the co-location framework & agreement

CHALLENGES & TIPS

Insights

INTELLECTUAL PROPERTY

- Be flexible on IP terms. Do not overestimate the economic potential of joint patents. Analyse in depth the exploitation and access rights of both parties. Train your staff on IP.
- Take into account and find a balance of each organisation's interest: research dissemination and IP protection. Time between idea protection and dissemination should fit both parties.

STAFF AND RESOURCES

- High level stakeholders should prepare and communicate a highly motivating plan.
- Ensure organisational support to co-located team. The co-located team needs support from other units in the organisation.
- The operational structure of the co-located team should embrace differences between both organisations. Training and team building activities may help.
- Develop and communicate overall evaluation methods.
- Define and regulate the dedicated resources and equipment to be used by the co-location team.

STEP 3
Vision and planning

- A shared strategic research vision and goals are agreed.
- Different activities to implement the co-location are defined:
  - Individual projects, organisation of joint events, participation in courses or activities at the university, joint submission of project proposals, etc.

STEP 4
Validation of co-location activities

- A formal meeting is scheduled to validate the research vision and planning of activities by university and company upper management.
- **Decision**: joint research vision and planning is accepted by both organisations.

MAIN ACTORS

- **I** Program Manager (3 & 4)
- **I** Co-located team (3)
- **U** Professor (3 & 4)
- **I** Upper management (4)
- **U** Government Council (4)

ENABLING ELEMENTS

- Transparency from both organisations on goals.
- Key Performance Indicators.
- Presentations of activities and ideas (elevator pitch).

ESTIMATED TIMEFRAME

Step 3: 2 – 4 months
Step 4: 1 – 2 months

STEPS 3 & 4
Vision, planning & validation

CHALLENGES & TIPS

Insights

- Define the strategy and goals, ensure they are understood by all stakeholders.
- Keep a continuous improvement mindset, communicate changes at all levels.
- Plan follow-up meetings to evaluate progress and market potential, involving potential customers of the research in the planning.
- Continuously align research outcomes with stakeholders' expectations: be ready to steer and terminate ongoing projects.
- Define dedicated Key Performance Indicators (KPIs) to assess each activity to predict long-term performance of the collaboration. The number of patentable results detected and associated prototypes validated by Business Units are early indicators of the number of patents with market utility.
- Allocate the appropriate resources needed by projects and activities.

STEPS 5 & 6

Execution and Evaluation of co-location activities

CHALLENGES & TIPS

Insights

- Make frequent presentations and meetings with stakeholders to ensure alignment with corporate strategies.
- Tools and methods to evaluate framework and co-location activities:
  - Define KPIs to assess performance.
  - Those KPIs should fit with the goals of the collaboration.
  - Some KPIs apply to the co-location framework, and a subset of KPIs apply to each specific activity.

STEP 3 - 6

Training

- Training is a central element on co-location to ensure teams understand each other at all levels, enabling a good performance and ensuring the optimal exploitation of their respective knowledge.

- Activities to build team trust and motivation are part of these training activities.

- Training should be given on:
  - IP and classification of information.
  - Technical areas.
  - Co-location management and processes.
  - Open Innovation.

MAIN ACTORS

- **I** Program Manager
- **I** Co-located team
- **I** HR
- **U** Professor
- **U** Researchers
- External trainer

ENABLING ELEMENTS

- Motivational speeches
- f2f meeting & workshops
- Specific training
- Team building activities
- Training materials

TIMEFRAME

Continuous training

STEP 3 - 6

Training

CHALLENGES & TIPS

Insights

The co-located team should be aligned in terms of strategy, vision, processes, etc. This is particularly relevant in a team with staff from different backgrounds. The following points will help:

- Set clear roles and expectations in the co-located team. Explain the conditions of the framework clearly.
- Plan team building activities, build team trust and motivation.
- Increase familiarity with industrial/academic cultures. Team members need to understand each other's organisational cultures.
- Explain the operational structure to ensure processes are clear and easy to follow.
- Communicate organisational expectations from co-location to ensure team members understand the importance of their activities.
- Increase knowledge on IP protection to avoid conflicts.
- Create an environment of openness.

Learning points

- **Most important findings**
  - At a time when technological companies are facing a shortage of highly skilled employees, co-location provides them with a **valuable source of tailored workforce**. Co-location allows companies to identify and train their future workers in a dedicated collaborative space, thus reducing the time and risks of finding adequate candidates.
  - **CIT UPC** (UPC's Technology Transfer Office) – who was the contact point between CA Technologies and the UPC – played a key role in setting up the co-location by understanding both industrial and academic realities, and dealing with the contractual terms.
  - Co-location **accelerates and reinforces** the validation of academic research lines and encourages the ideation of potential innovations with a sound market impact. This living ecosystem boosts the bidirectional communication and generates an extra motivation for both partners.

- **Most important recommendations**
  - IP covered in the agreement between CA Technologies and the UPC was too open, forcing research activities to be delayed several months until reaching an agreement on specific IP conditions.
  - Framework conditions made it difficult to include students in the co-location activities executed within the framework of the co-location.
  - In general, academics are less motivated by applied research, as they are normally not rewarded by conducting applied research. In fact, it hinders their academic progression as research throughout is significantly impacted due to the increased workload.

References

Networks

- **University-Industry Partnership Demonstration**
  - «Researcher Guidebook: A Guide for Successful Institutional-Industrial Collaborations», 2012.
  - «Co-Locating Industry Personnel on University Campuses: A Guide for Navigating the Complexities of Co-Location», 2017.
- **University-Industry Innovation Network**
  - M. Dahlgaard, «Taking responsibility for growth and job creation; Co-location for co-creation», 2014.
  - A. Meerman, «Fostering university-industry relationships, entrepreneurial universities and collaborative Innovation», 2014.
- **Science|Business**
  - G. Edmondson, «Making industry-university partnerships work: Lessons from successful collaborations», 2012.

Scientific publications

- S. Ankrah, «Universities–industry collaboration: A systematic review», Scand. J. Manag., 31, 3, 2015.
- J. Moultrie, «Innovation Spaces: Towards a Framework for Understanding the Role of the Physical Environment in Innovation», *Creat. Innov. Manag.*,16, 1, 2007.
- N. Lakemond, «Co-locating NPD? The need for combining project focus and organizational integration», *Technovation*, 26, 7, 2006.

Impressum

EDITOR

i2m GmbH
Graz, Austria
i2m@i2m.at
www.i2m.at

Bax & Company
Barcelona, Spain
info@baxcompany.com
www.baxcompany.com
...

LAYOUT AND DESIGN
Spirit Design – Innovation and Brand GmbH
Vienna, Austria
spirit@spiritdesign.com
www.spiritdesign.com

www.science2society.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 693651