BETTER FACTORY

Grow your manufacturing business

Paula Cervera (Mobile World Capital Barcelona)
Skills Observatory

What is Better Factory?

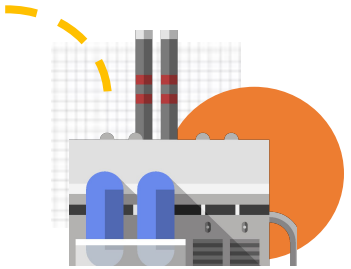
Better Factory is **a 48-month project** financed by the European Commission.

Our aim is to **help European manufacturing SMEs** develop **new and personalised products**, and in the process also **become cyber-physical systems and lean-agile production facilities**.

We will match up **16 manufacturing SMEs** each with one **artist** and one **technology provider**, to carry out experiments (Knowledge Transfer Experiments, or KTEs).

Over the 12 months, they will have support from 28 expert partners:

- Technology and business advice
- Funding
- **Access to training: Skills development**



Skill development - Objectives

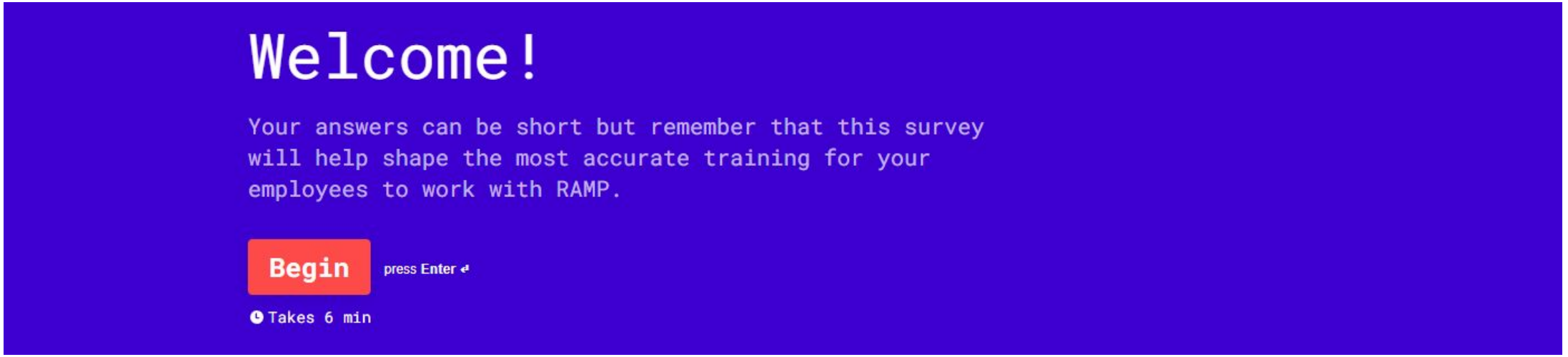
A) Identification of skill requirement for the Knowledge Transfer Experiments (KTEs)

B) Co-definition of trainings program

C) Setting up of contents and webinars on Better Factory, RAMP + APPS and continous improvement

A) Identification of skill requiremenet for the KTEs

- **Mapping of trainings** and documentation already available by partners (CC, DIHs, APPS developers)
- **Research on skill requirements** by SMEs:
  - Launch of questionnaire / survey
  - Focus group discussion



https://mwcapital.typeform.com/to/Y4dSgORe

A) Identification of skill requiremenet for the KTEs

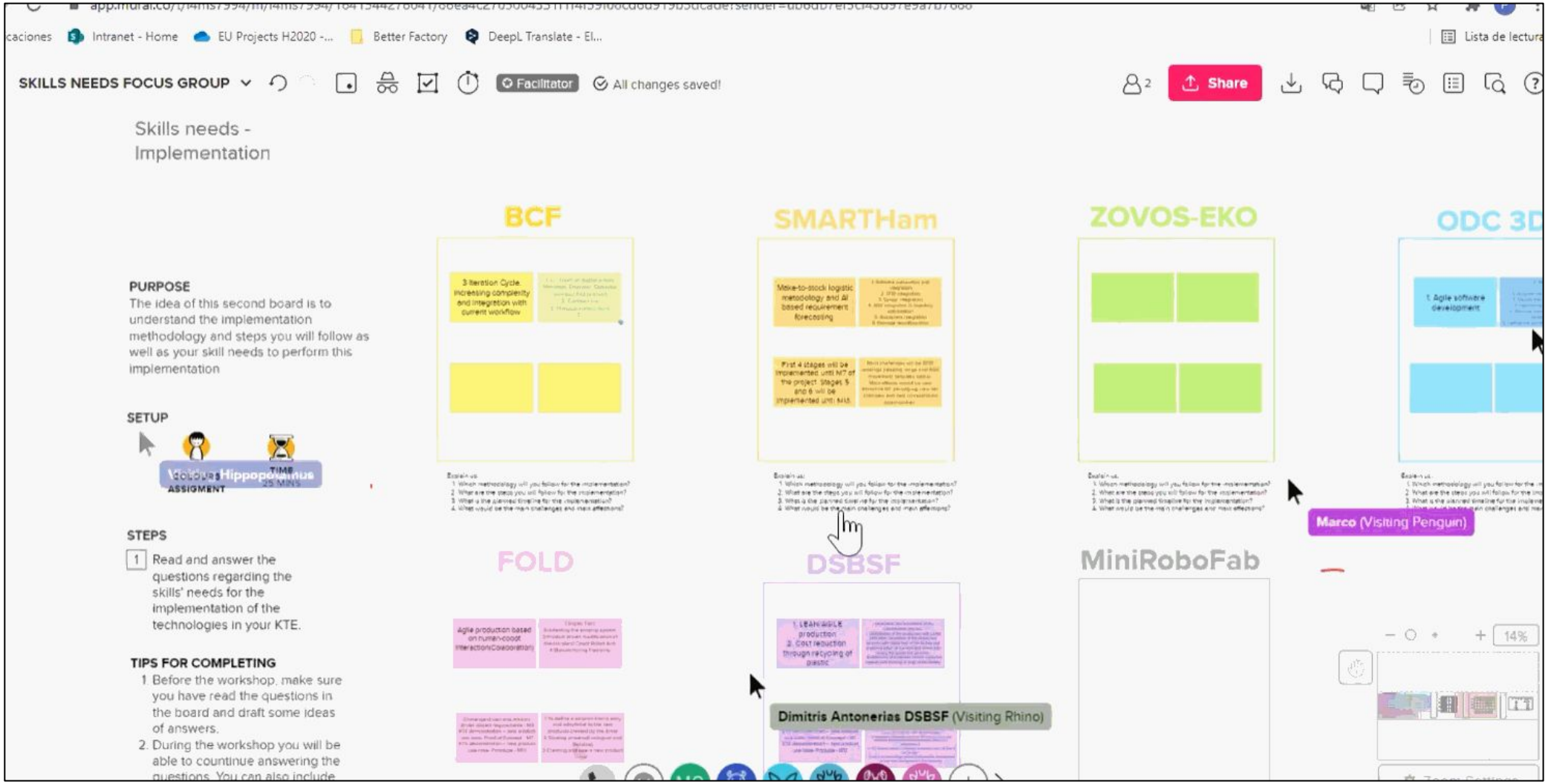
Focus Group with SMEs and KTEs – Tools

MURAL board divided in 5 parts:

1. Profile meeting: team, background, new technologies, expectations
2. **Skills needs for implementation:** methodology, steps, challenges
3. **Skills needs on information and data awareness:** gathering, storage, usage, cybersecurity
4. VR experience: VR platforms, purpose, experience, benefits and positive impacts
5. **Workers' training and experience:** education, experience, training program, skills requirement

A) Identification of skill requiremenet for the KTEs

Focus Group with SMEs and KTEs – Interactive session



A) Identification of skill requiremenet for the KTEs

Focus Group with SMEs and KTEs – Conclusions

Focus Group conclusions and next actions:

- Trainings
- RAMP Platform
- APPS
- Virtual Reality

	KTE NEEDS		ACTIONS	RESPONSIBLE	TOOLS	DEADLINE
Trainings	Technical training materials: - Documentation - Video trainings: video examples, hands-on tutorial on how to deploy and use APPS modules	AGV (Fraunhofer) OCB ROS integration DB setup IOT connections/upload Digital Twin (module): video + documentation INESC Cognitive HRI (package): no contents prepared Camunda: only manual GRAPHANA (module): no contents prepared	1st. Understanding APPS modules/submodules status 2nd. Preparing/improving contents for the ready modules, starting with the ones we don't have contents yet. For each APP: *- What is the APP for?* *- How can the APP be applied (it might be different formulas)?* *- What steps to take for implementing the APP?* *- Which person to contact in case of issues?* 3rd. Contents different from modules: identifying partners + preparing plan for webinar recording	MWCapital	1st. "APPS status" tab Excel Status Training Documentation 2nd. Two different templates: *-Documentation: to be used also to include the information in GitHub* *-Video: including the points to be covered and an example*	By the end of March: -Modules: Written contents for ready modules prepared by the end of March + Plan for webinar recording -Others: Partners identified + Plan for webinar recording
	Other training materials: - Marketing training during product development			MWCapital		By the 2nd Open Call launch: Contents drafted

B) Definition of trainings program

What? Filling the gap with focus on the next round of KTEs

How? Contents on developed modules (manuals, videos) **Content mapping (BF website + GitHub)**

Package / Section	Components	Videos	Documentation
Logistics and automation library	Logistics Library	Logistics Library Workshop	Documentation OPIL
		Introduction	
		Installation	
		Modules	
	Person detection & Tracking	Tracking of workers in shared space	Person Detection & Tracking Manual
		Person detection tracking	
	Agent Optimization	Agent Optimization	https://github.com/ramp-eu/Agent_Optimisation_Service#readme
	Temporal Heatmap of Human Occupancy	Temporal Heat Maps	https://github.com/ramp-eu/THMHO_heatmap_generator#readme Temporal Heatmap of Human Occupancy User Manual
	Real-Time Locating System	Positional Data Acquisition	TBD
	TBD: Material Flow	TBD	TBD
Production reconfiguration	Advanced Plant Modelling (APM) & 3D Digital Twin	TBD	Create Physical Area
		TBD	Implant objects on the physical area
		TBD	Create Physical Area with Map
		TBD	Add a new rack to the Catalogue
		TBD	Add a new rack to the Catalogue with STEP
		TBD	Add a new equipment to the catalogue
		TBD	Add a new workstation to the catalogue
		TBD	Add a new production line to the catalogue
		Complementary video of the documentation	
		KTEs Webinar (Advanced Plant Modeling)	
			User Manual of the Digital Twin Designer
	Manufacturing Process System Management & Camunda?		The Camunda Platform Manual
		Manufacturing Process Management System	https://github.com/ramp-eu/Manufacturing_Process_Management_System/blob/master/README.md

B) Definition of trainings program

What? Filling the gap with focus on the next round of KTEs

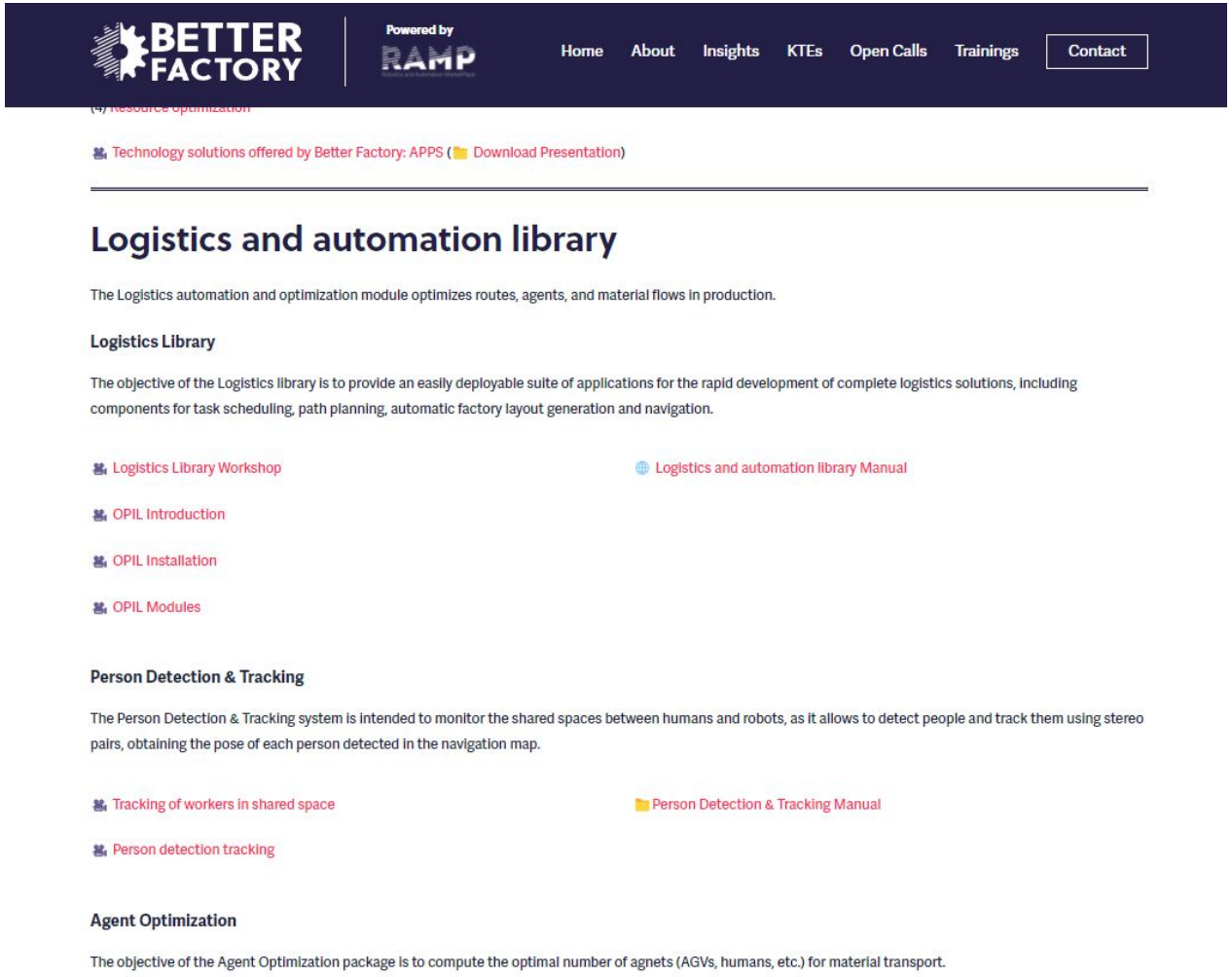
How? Added value contents: documentation, videos **identification of partners with experience**

Contents	Partner	Requesting KTE
AGV	Fraunhofer	SMARTHam
OCB (Orion Context Broker)	VTT	SMARTHam
ROS integration	CUT	SMARTHam
IoT connections	Depends on hardware - selected APP package	BCF
Marketing	MWC	FOLD

C) Setting up of contents and webinars

New structure of contents in Trainings page at BF website:

- More intuitive
- More user-friendly



C) Setting up of contents and webinars

Updated contents in Trainings page at BF website:

- Introduction to packages and modules
- 6 new user manuals:
  - Cognitive HRI: Pose Recognition and Correction Guide (GESTALT)
  - Logistics: Person Detection and Tracking (AIMEN) + Temporal Heatmap of Human Occupancy User Manual (FHG)
  - Reconfiguration: Digital Twin Designer Guide (INESC)
  - Resource Optimization: Business Process Optimization Manual (CUT) + Process Optimization Guide (TDS)
- Link to GitHub:
  - RAMP repo:
    - Temporal Heatmap of Human Occupancy
    - Agent Optimization
    - Manufacturing Process Management System
  - Other repo:
    - Logistics Library
    - Fatigue Monitoring System
    - Intervention Manager

https://github.com/ramp-eu

- Addition of hands-on tutorials on how to deploy and use the modules

Thank you!