



CERN Ideasquare

INTRODUCTION



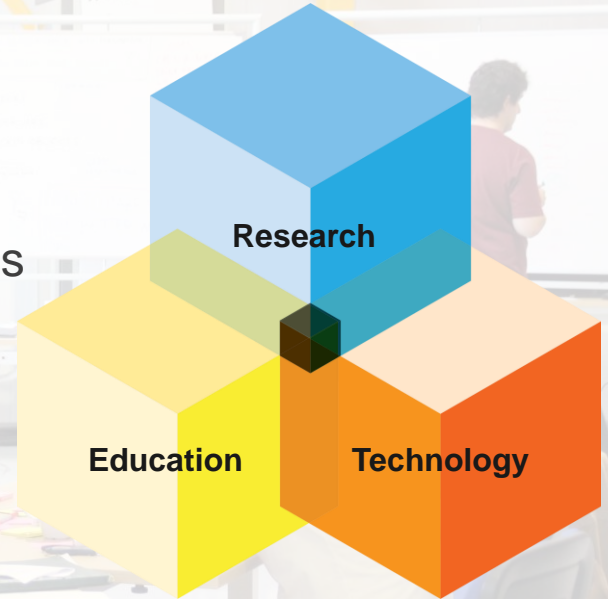
EPS TIG Workshop, CERN October 4-6, 2019 Markus Nordberg (CERN)

IDEASQUARE IN BRIEF

“Ideasquare is an experiment to bring together physicists, engineers, industrial partners, early-stage researchers and cross-disciplinary teams of students to work together on detector upgrade R&D and related technologies. The purpose is to co-develop new technologies for research purposes, and at the same time, create a fruitful environment for socially and globally relevant new product ideas and innovation.”

IDEASQUARE IS

- Project with a dedicated building, hosting:
 - EU-funded detector upgrade R&D projects
 - Innovation events, workshops, hackathons
 - Multidisciplinary master level student programs
- ...to prototype, test and iterate new forms of collaboration and co-creation in the areas of Research, Education and Technology – **RET**
- Monitored by IS Advisory Board





EXAMPLE: NEUTRINO PLATFORM PROJECTS

- Neutrino Platform (CENF) fosters fundamental research in the field of Neutrino Accelerator Physics
- CENF supports generic detector, neutrino beams R&D and large detector prototypes or demonstrators. It gives technical, financial and logistics support to approved projects
- Currently includes seven projects, including significant involvement in (Proto)Dyne
- CERN & IdeaSquare provides a facility for R&D on future technologies (HW and SW) and partner in several neutrino research programs





EXAMPLE: EU-FUNDED ATTRACT PROJECT(S)

- ATTRACT funds 170 breakthrough projects in Detection & Imaging
 - 15 of them involving the NL universities, research labs, industry
- Provides funding for developing early-stage ideas and prototypes
- Focuses on high innovation with potential outside research
- Engages with CBI-like student activities, seeking for unforeseen entrepreneurial opportunities for the young
- Purpose is to create a new innovation ecosystem in Europe
- ATTRACT is coordinated by CERN (IdeaSquare)



Challenge
Based
Innovation

EXAMPLE: MASTER-LEVEL STUDENT COURSE

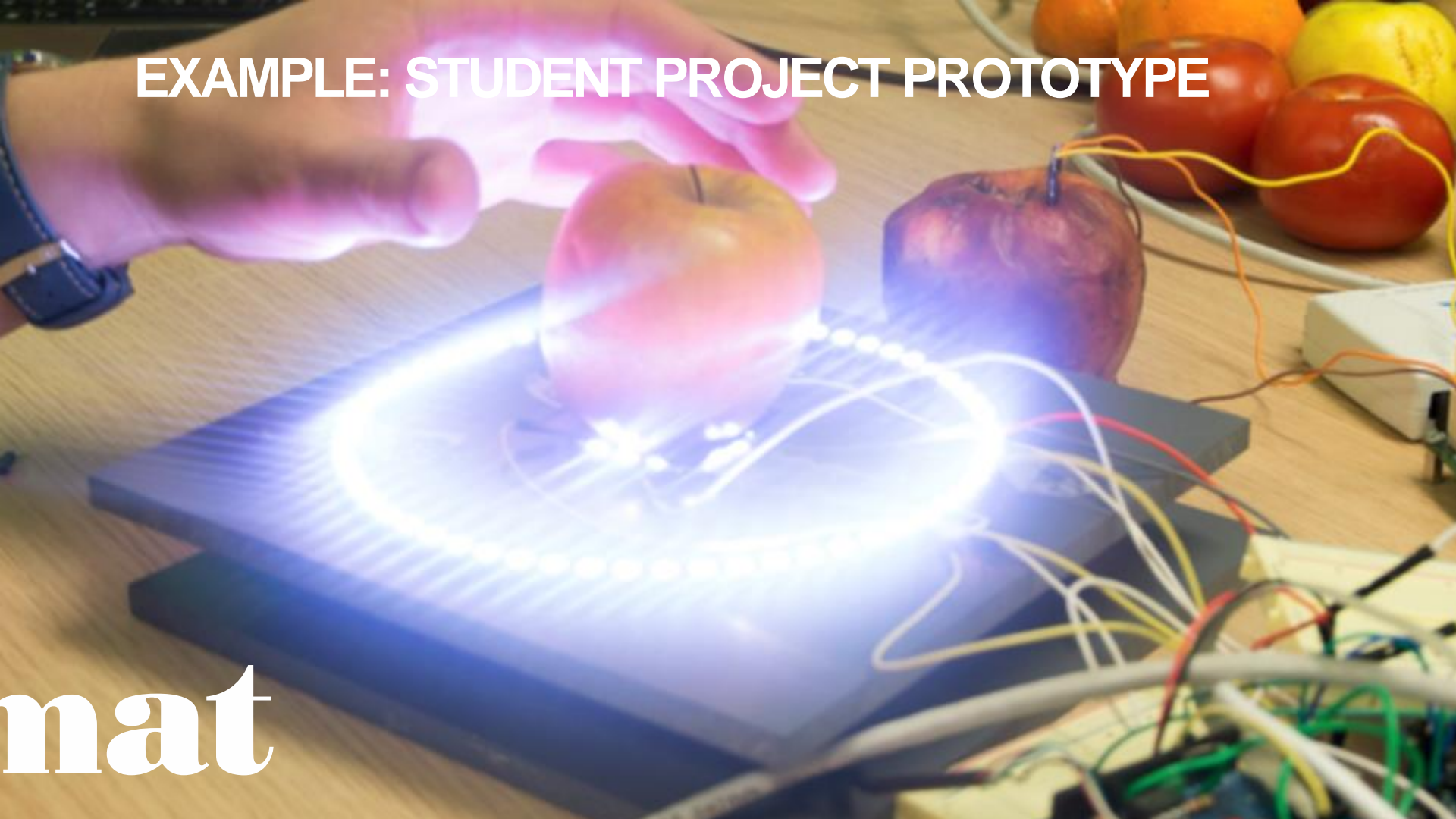
- Challenge Based Innovation (CBI) is 5-6 month MSc-level specialization course for product and service development, run by participating universities from 8 countries around the world
- Over 600 students have participated with more than 100 conceptual prototypes produced, contributing to UN Sustainable Development Goals
- In the course, multidisciplinary student teams learn how to apply Design Thinking – process for new product/service development; engaging with CERN researchers who act as technological coaches in the process
- “Work extremely hard, learn and have fun!”
- “Fail fast and often to succeed sooner”

EXAMPLE: STUDENT PROJECT PROTOTYPE



EXAMPLE: STUDENT PROJECT PROTOTYPE

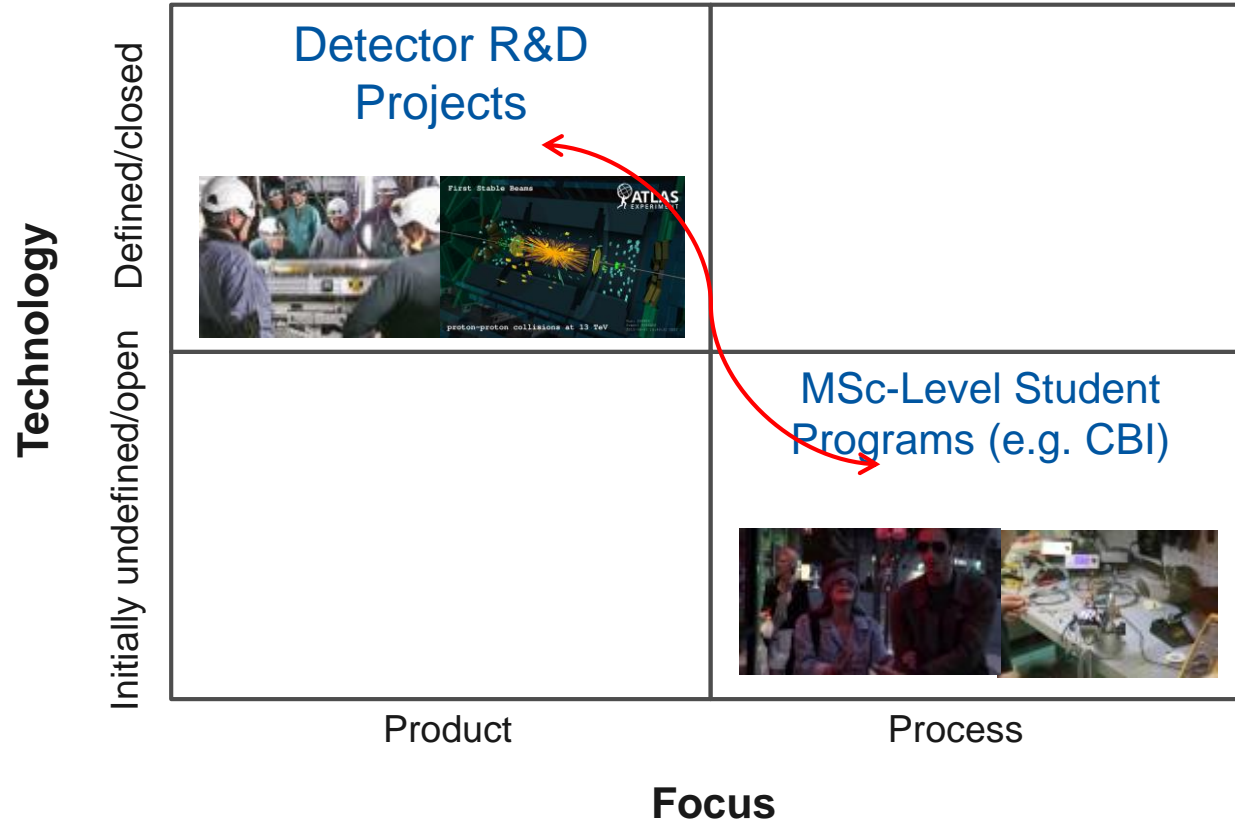
mat



IDEASQUARE OUTPUT

- Creating next-generation of young scientists and innovators
- Accelerating flow of ideas and time from discovery to application
- More effective sharing of ideas, spaces and resources across projects at CERN and outside
- New results in socio-economic research about experimental innovation processes (IdeaSquare Journal of Experimental Innovation, <http://cij-ei.web.cern.ch/cij-ei/>)
- Making societal value of basic research more visible and tangible
- New insights for ATTRACT (www.attract-eu.com)

WHAT IS THE MOST INTERESTING LINK FOR NEW INNOVATION?



All you need is

~~..Love~~ PHYSICS

..Design

..Business

..and Engineering.

Questions? Comments?

Contact information:

Email

Skype

Let's have a cup of coffee and make it happen!



Idea^s