



INTRODUCTION

Objectives of the workshop

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*Part 1 - Introduction to proactive support program for breakthrough technologies /
Disruptive innovation, core challenges and questions to address*

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Objectives of the workshop

- **Develop a European way to proactively manage programs for breakthrough technologies and disruptive innovation & nurture deep-tech entrepreneurs on the entire journey from research to impact**
- **Create a ‘Community of Practice’**

THE (D)ARPA-Model for proactive management

The Original



Sputnik 1957



Created in 1958 to prevent technological surprise

Some results



GPS, Stealth, SIRI
Internet, Drones,
mRNA Covid-19 Vaccine ?
(early funding of Curevac and Moderna)

The Clones



leap^w



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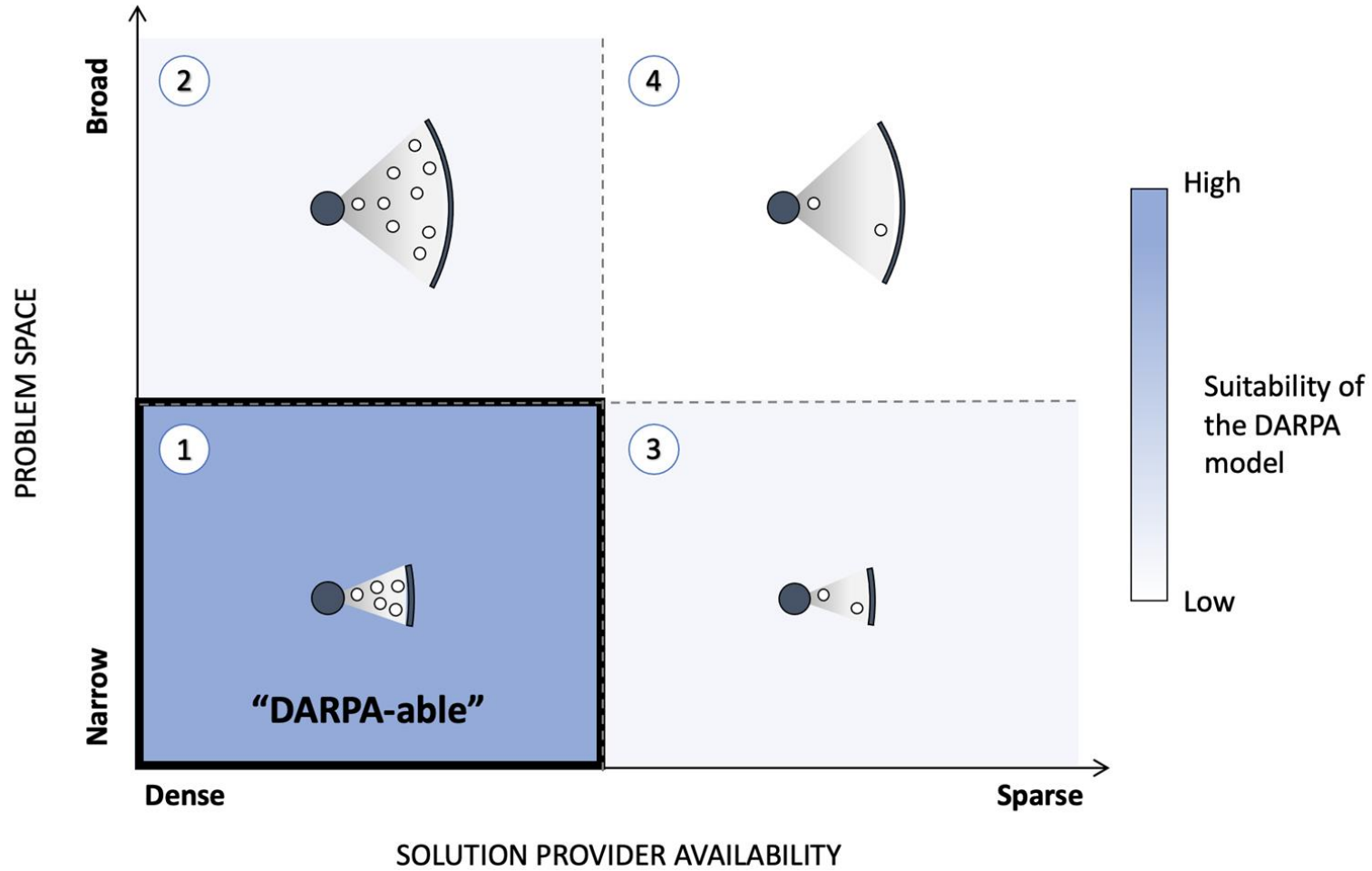
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Defining elements of the Darpa model

- Identification of “technological white space” and design of high-risk challenge-driven programs to fill that void / bottom-up program design.
- Discretion in selection of projects by program managers (peer-review or committees drives compromise and conservatism...) – ARPA-model is an “outlier model”.
- Active portfolio management of each Program with x projects using specific milestones (technical and transition to market) and defined time commitments – reorient or terminate / “killer experiment”.
- Organizational Flexibility (independence, flat org., fixed-term employment, flexible contracting) – strong collaboration with universities.

DARPA PROGRAMS



Fu, Frolund and Murray, 2021

[“Enabling Mission Impact: Funding Strategies for High-Risk, High-Reward Innovation”](#)

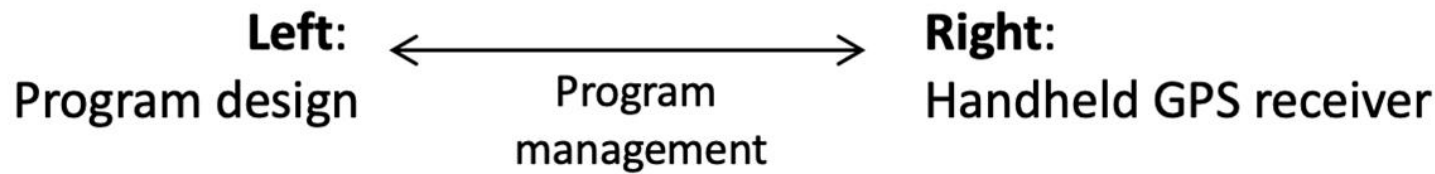
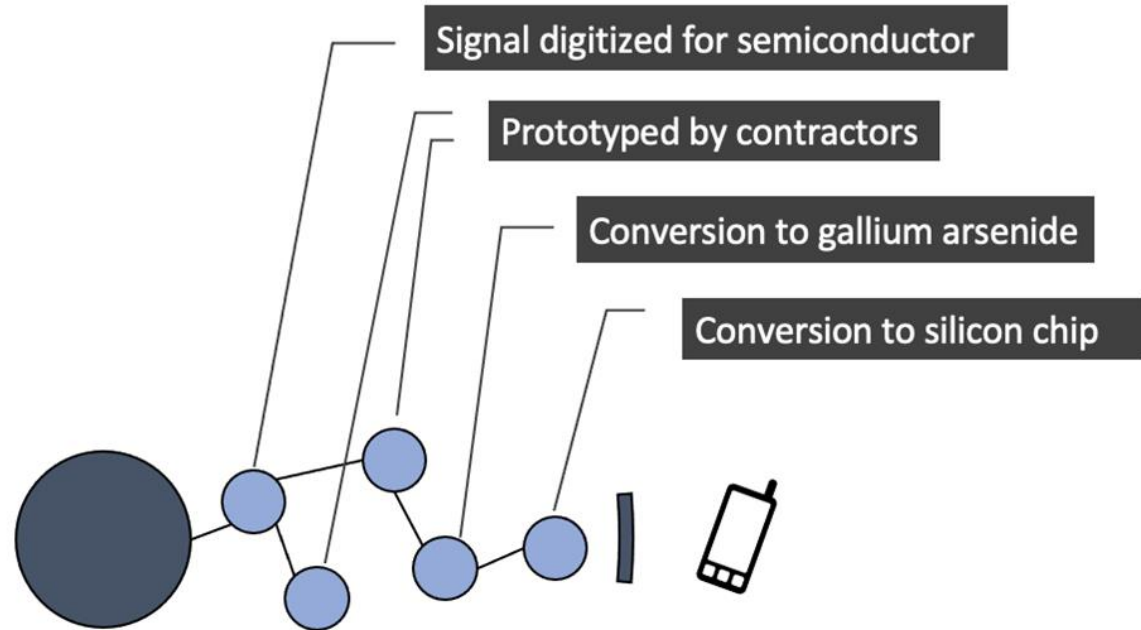
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Realizing a battery-operated, hand-held receiver with military P-code capability of max 10lbs



Fu, Frolund and Murray, 2021
[*"Enabling Mission Impact: Funding Strategies for High-Risk, High-Reward Innovation"*](#)

A Monkey reading Shakespeare



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Develop a European way to **proactively manage** programs for breakthrough technologies and **disruptive innovation** & nurture deep-tech entrepreneurs on the entire journey from research to impact

The scope of the EIC expert group

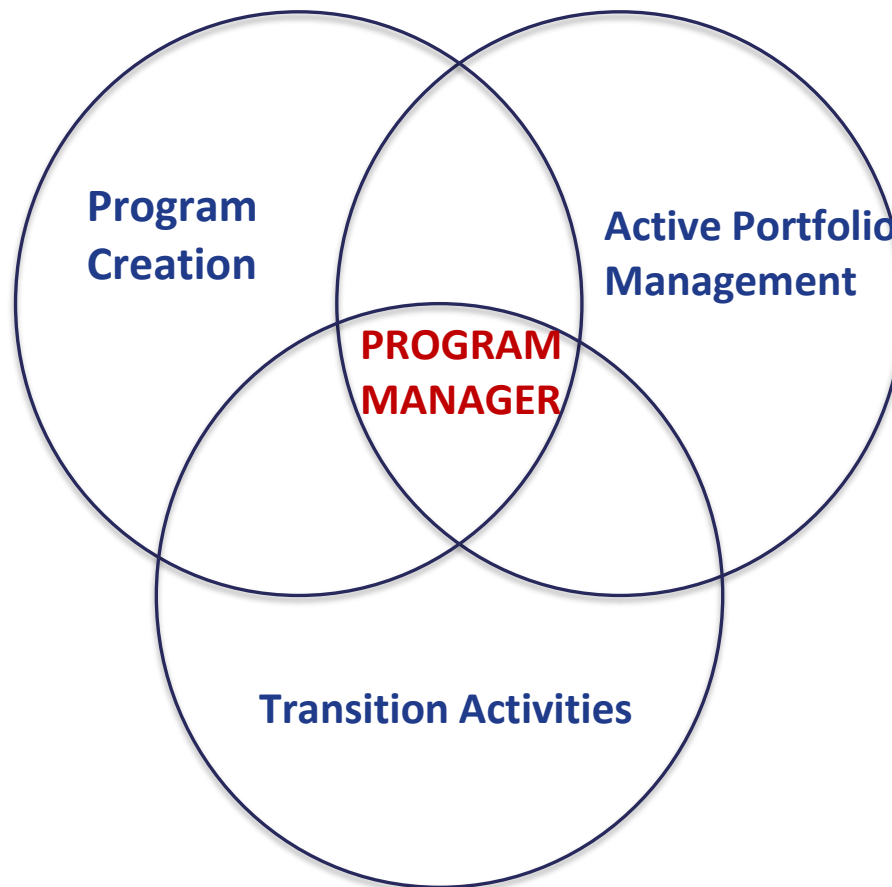
The expert group was asked to give guiding principles and recommendations on developing the EIC way of **proactively managing innovation** under the Pathfinder by focusing on:

- **Program creation** targeted competitive challenges, including the management structure and approval process
- **Active Portfolio Management** to enable a novel hands-on way to manage a programme and possibly to accelerate, reorient or terminate projects
- **Transition Activities** that facilitate the transition of projects towards the market from the early stages of the innovation process

The EIC Way

Complementary ARPA-like features centered around THE EIC PM

Creation of high-impact programs focused on **developing solutions to challenges** via emerging technological opportunities



Use of active portfolio management to **mitigate risk across a portfolio of high-risk projects**. The ability to redirect, accelerate, and terminate.

Integration of transition activities within each program and project **from the beginning**

[Expert Group report: "Implementing the Pro-active Management of the EIC Pathfinder"](#)

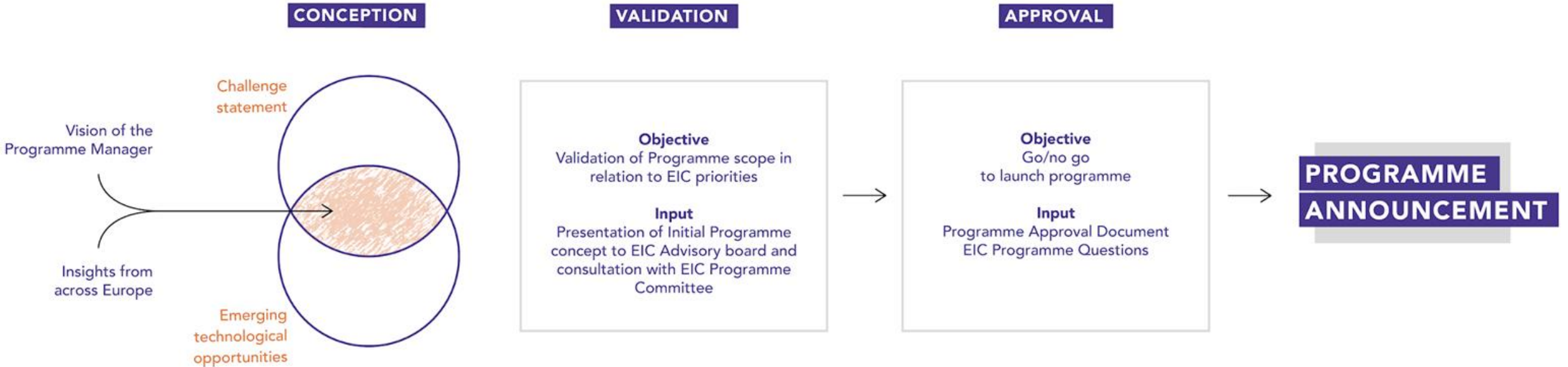
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Program Creation: conception, validation, approval



[Expert Group report: “Implementing the Pro-active Management of the EIC Pathfinder”](#)

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The Economist, May 2021

Europe is now a corporate also-ran. Can it recover its footing?

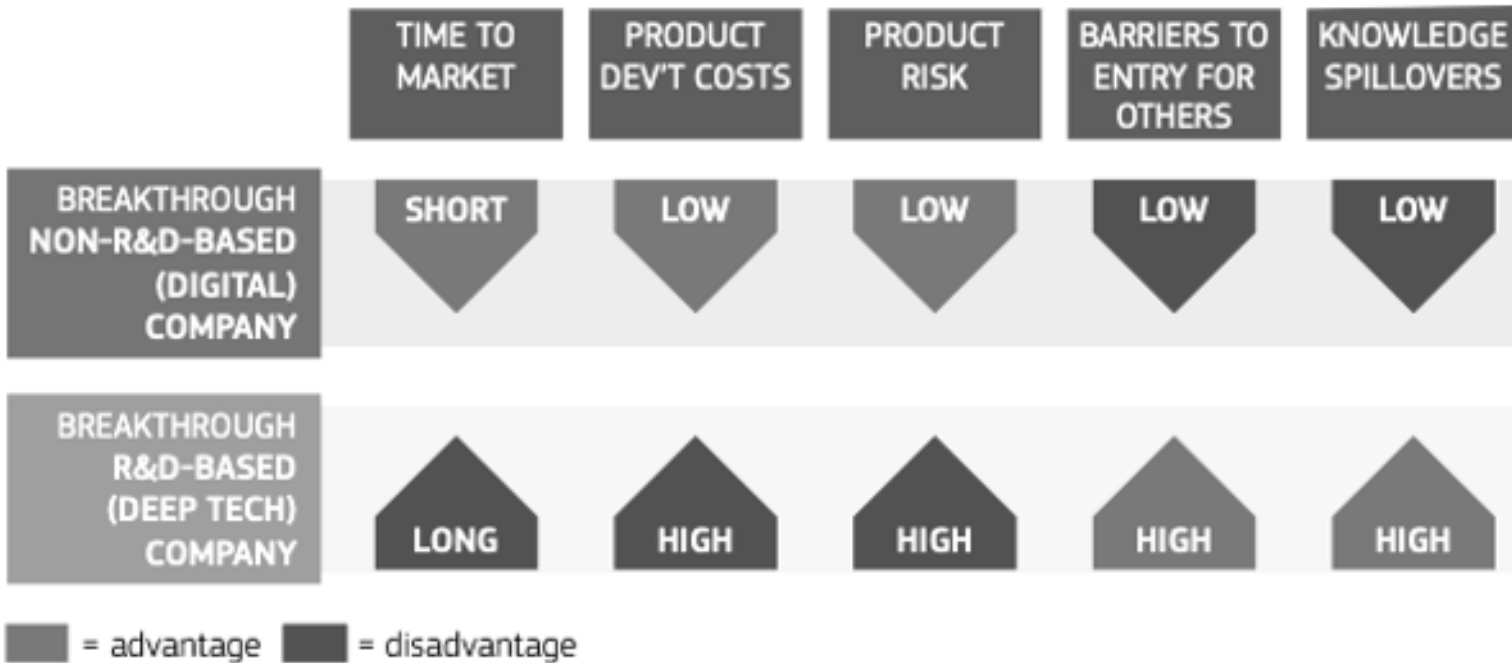
« Most of the new US companies are created in the past 20 years and are in Tech »

« Program Manager is not only a connector, but also a conductor and a systems integrator (...) the deliberate role the DARPA program manager plays in changing the shape of the network once in this position, so as to identify and influence new directions for technology development. »

Fuchs et al, 2010



CHALLENGES OF THE THE VENTURE CAPITAL MODEL FOR DEEP TECH



Not ideal for a VC

Because... “[VCs] are often drawn to sectors with large uncertainty about an idea’s potential that can nevertheless be resolved quickly”

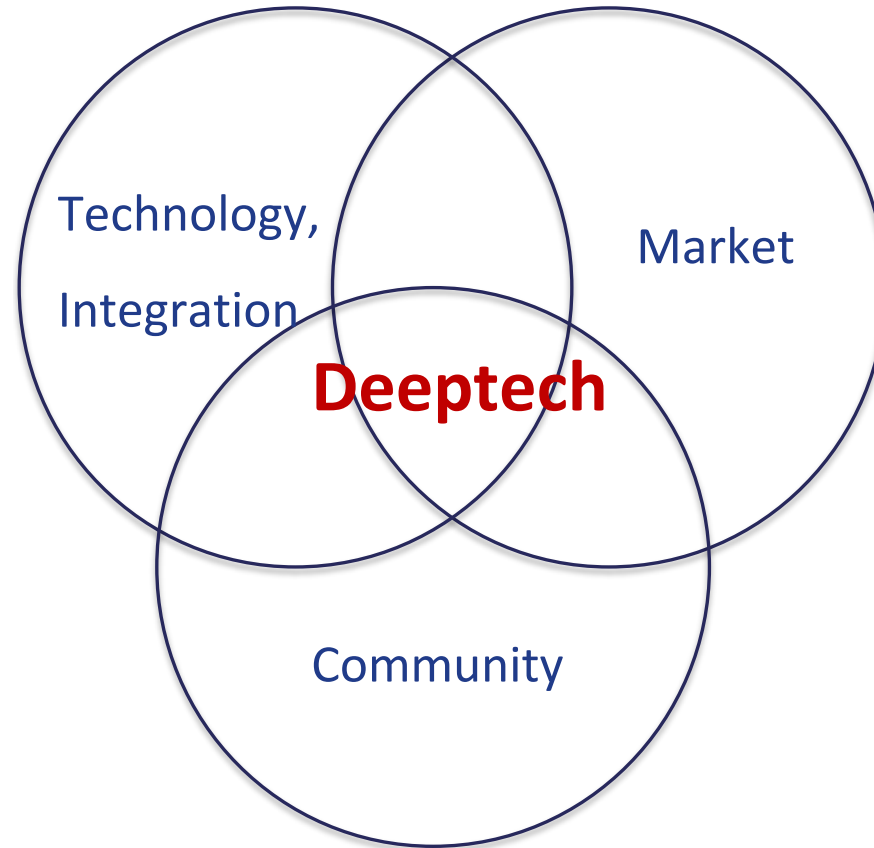
While ‘deep tech’ often has high risks (and high \$ to resolve) especially in the early stages.

Josh Lerner “ Venture Capital’s Role in Financing Innovation”, NBER 2020

“Europe is Back – Accelerating Breakthrough Innovation” Hauser report on EIC

An integrated and challenges-driven strategy

Create IP and Technologies
in an integrative “view” to
target quickly solutions
development of solutions



Define and update a
transition strategy at project
and program level to identify
market or create new market

Develop a deeptech entrepreneur community (from Lab and beyond) and
help them to growth (mentoring, business acceleration services, etc.)

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TRANSITION ACTIVITIES: PROGRAM LEVEL

**CHALLENGE-
DRIVEN
PROGRAMME**

+

TRANSITION STRATEGY
INNOVATION ECOSYSTEM
ENGAGEMENT PLAN
TRANSITION WORKING GROUPS

=

ACCELERATION OF
MARKET ADOPTION

DEFRAGMENTATION OF
EUROPE'S INNOVATION
ECOSYSTEMS

**THEMATIC-
DRIVEN
PROGRAMME**

[Expert Group report: "Implementing the Pro-active Management of the EIC Pathfinder"](#)



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TRANSITION ACTIVITIES: PROJECT LEVEL

**PROJECT
LAUNCH**

**YEAR
ONE**

**YEAR
TWO**

**YEAR
THREE**

**TRANSITION TO
'NEXT PHASE'**

Preliminary Transition Plan

How far could you get (in this project)?

What would happen next?

What do you need to know to get there?

When do these things need to happen?

Who should know about this?

Refining of Transition Plan

Engaging with ecosystem

Testing value proposition; understanding barriers

Techno-economic Analysis (TEA) – refine as appropriate

Preparing 'one pager' on project and possible impact

Possible participation in Training Programme for deep tech entrepreneurs

TO ACCELERATOR

TO ACQUISITION

TO LICENSING

TO MORE R&D / PUBLISH

Transition Milestones

Milestones related to the Transition Plan should be embedded into the overall project work plan and have budget specifically allocated to deliver on those milestones



EIC EXPERT GROUP REPORT

[LINK TO REPORT](#)

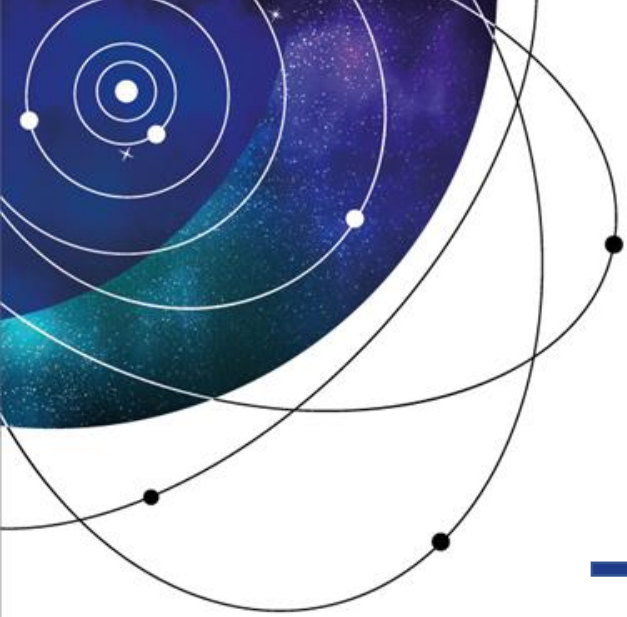


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Thank You



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