WP3 - status report

iFAST S.C, 15 nov. 2021

M. Morandin - INFN/PD
for the WP3 team

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Summary

- WP3.1
  - IAB
  - Industry section on the I.FAST Web site
  - Events open to industry
  - I.FAST Industry day
- WP3.2
  - Innovation and TT potential survey
- WP3.3
  - Strengthening the industrial engagement

WP3 -Industry engagement

- WP3 will explore ways to boost the **involvement of industry** in R&D and technical development activities.

- Activities on-going on all the three tasks:
  - WP3.1 [INFN (M.M.), CEA, CERN, CIEMAT, DESY)]
  - WP3.2 [DESY (Djamschid Safi), CERN, UKRI]
  - WP3.3 [CIEMAT (Jose M. Perez), CEA, CERN, INEUSTAR, CDTI]

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IAB

- As suggested by the I.FAST S.C. an additional member was added, in collaboration with WP6 colleagues, to represent the **Laser industry**
  - finally **11 members** in total from industry
- Chair of the board was also found: **Špela Stres**
  - current Director of the Center for Technology Transfer and Innovation (CTT) for Jožef Stefan Institute (Slovenia) and visiting lecturer at University of Ljubljan.
- Members of the IAB officially appointed by the I.FAST G.B. on Oct. 5
- First **IAB online meeting: 23 Nov. 2021**
- First WP3 milestone successfully passed!
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IAB members

Name	Role	Company	Country
Špela Stres	Chair	Center for Technology Transfer and Innovation (CTT)	Slovenia
Charles Mangeot	Member	CTS	Denmark
Francesco Fantini	Member	Fantini	Italy
François Sylla	Member	SourceLAB - Laser Plasma Technologies	France
Jean-Luc Lancelot	Member	Sigmaphi	France
Josef Troxler	Member	Ampegon Power Electronics AG	Switzerland
Melhem Ziad	Member	Oxford Instruments	United Kingdom
Michael Peiniger	Member	Research-Instruments	Germany
Miguel Angel Carrera	Member	AVS - Added Value Solutions	Spain
Pavel Hedbavny	Member	Vakuum Praha	Czechia
Rok Hrovatin	Member	Cosylab	Slovenia
Ronald Dekker	Member	Demaco	Netherlands

IAB (II)

- IAB activity already started

  - IAB members for the **Industrial training program selection committee** identified

- IAB is now ready to serve the needs the IFAST collaboration

  - next meeting, after the kick-off, will take place in May, during the first I.FAST Annual meeting

- Any **need of feedback or involvement of the IAB** in I.FAST activities could be send to IAB Chair and me

  - e-mail list has been setup: **IFAST-IAB@cern.ch**

Industry relatad events in I.FAST

- Survey was carried out among the WP leaders to build up a calendar showing what opportunities of participation I.FAST offers to the European industry

- eventually, we got feedback from almost all the WPs involved
  - thanks a lot for all the feedback provided!

- Events categories
  - participation:
    - by invitation only: 3
    - open: 17
  - expected audience:
    - 50-100: 2
    - 20-50: 2
    - < 10: 16
  - industrial sectors:
    - specific: 16
    - general: 4

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The global picture

The I.FAST Industry day

- Goals:
  - make the European **Industry** at large aware of the **main developments** in Accelerator-related technology being pursued in I.FAST
  - provide information on opportunities of engagement in I.FAST
    - **Innovation Fund**
    - **Ind. Training program**
    - …
  - get **feedback** from industry on their **expectations/ideas/concerns** for the future
- Besides, companies will for sure appreciate if we provide a synthetic yet effective overview of the **major project developments with accelerators** both in Research Institutions worldwide as well as in specific application fields (e.g. medical sector)
- We would aim at having a significant number of companies present
- if you have activities/proposals to be presented to them, let us know, we will try to set up an inclusive agenda.
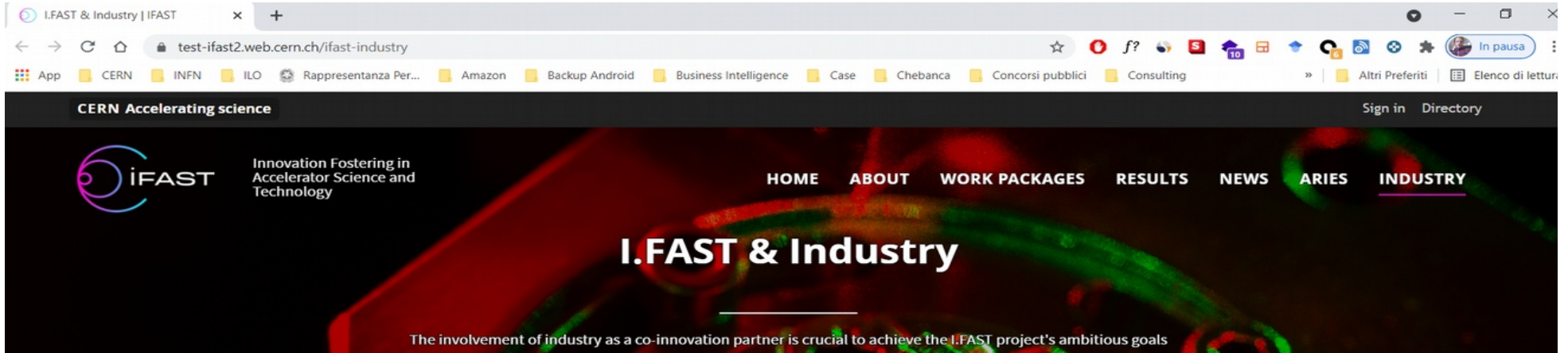
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Industry Day possible dates

- WP3 preference, supported by Maurizio, is to hold the meeting in the week of the I.FAST Annual meeting

  - too risky to organize the meeting earlier, given the Covid-19 impact in Europe

  - possible conflict with Big Science Business Forum (Grenada, Oct. 4-7) later

- companies could participate in the I.FAST plenary session in the first day

- a second day (either before of after) dedicated to industry specific topics)

Industry day Program Committee

- We will setup the P.C. soon
- It will be very helpful to have in the P.C. people that have a **broad view** of the field and **direct knowledge** of colleagues that can be invited to give the talk
- Suggestions of names and self-nominations are welcome from both academic as well as industrial I.FAST partners !

Industry section in I.FAST web site

Structure:

- ❖ Introductory page about the role of industry in IFAST & the role of WP3
- ❖ Subpages linking to relevant information for firms: how to get involved in the project, IAB members, Beneficiaries, events calendar, Training Secondment opportunities, I.I.F.

Goals:

- ❖ Help companies, especially those external to the project, to navigate the different opportunities inside IFAST
- ❖ Become the access point to all relevant information concerning the industrial participation
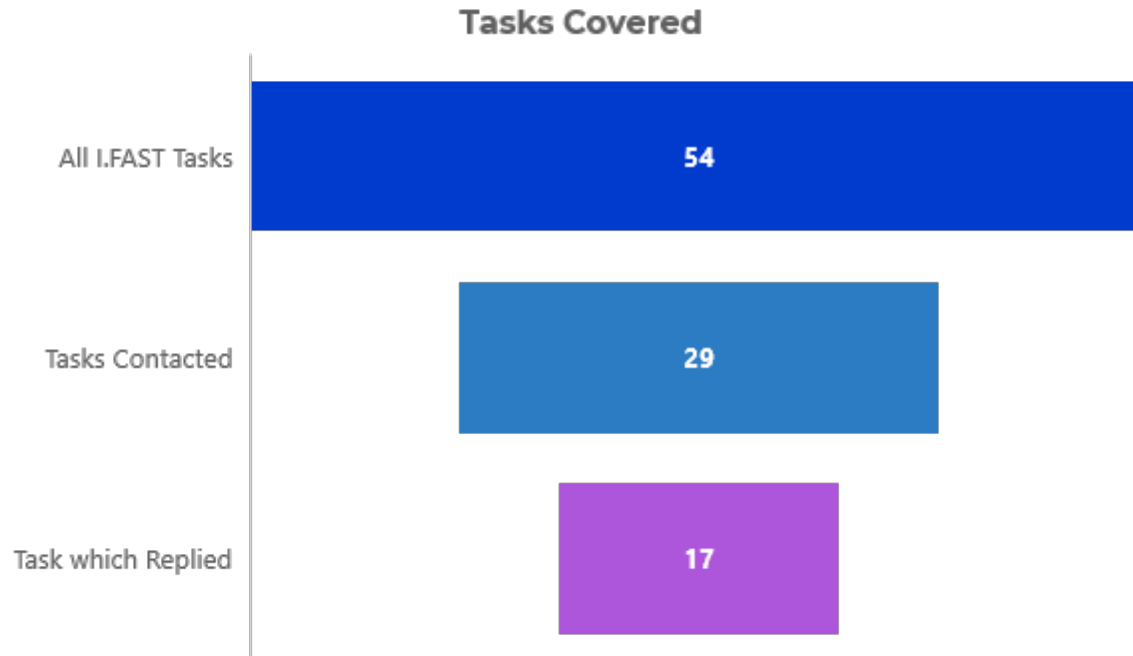- ❖ Foster the involvement of new firms and ease the interaction with WP3

WP 3.1-2
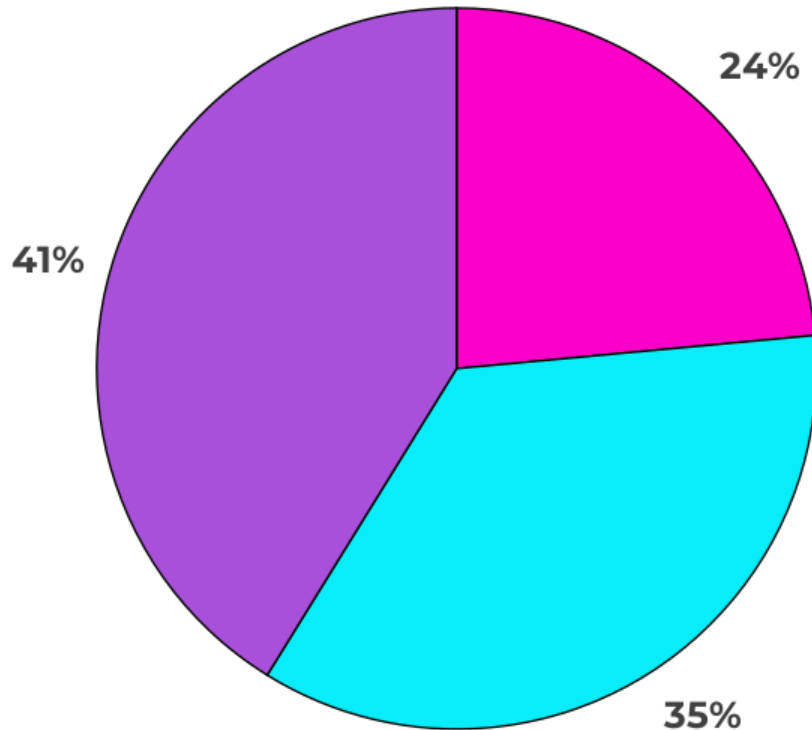# Innovation and TT potential survey

- Goals:
  - assessing the **innovation potential** and the extent of **possible knowledge transfer** associated with the R&D activities in I.FAST
  - evaluating whether the level of industrial engagement in I.FAST activities **is adequate** or how it could be **strengthened further**
- Survey was **sent to Task leaders**
- Now we are analyzing the data collected so far
  - in a few cases we might need some further interactions with Task Leaders for some clarifications
- Our plan is to have the report of the survey ready be February next year
- A few example of the information produced with the survey in the next slides

WP3.1-2: Inovation / TT potenial surevey

- Survey sent to a subset of the I. FAST Task leaders
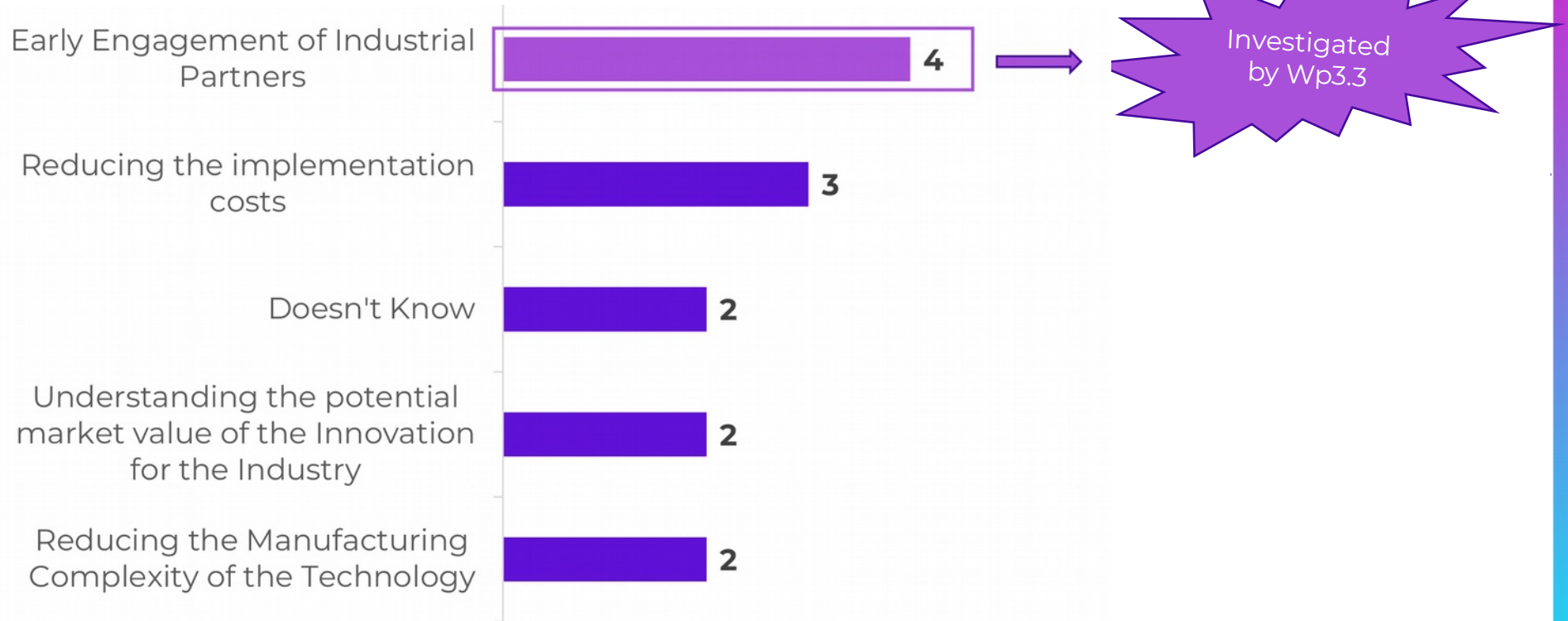- we are still hoping to get some further feedback by the missing task leaders

Tasks Covered

All I.FAST Tasks	54
Tasks Contacted	29
Task which Replied	17

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Exectations of industrial products/process innovation from I.FAST activities
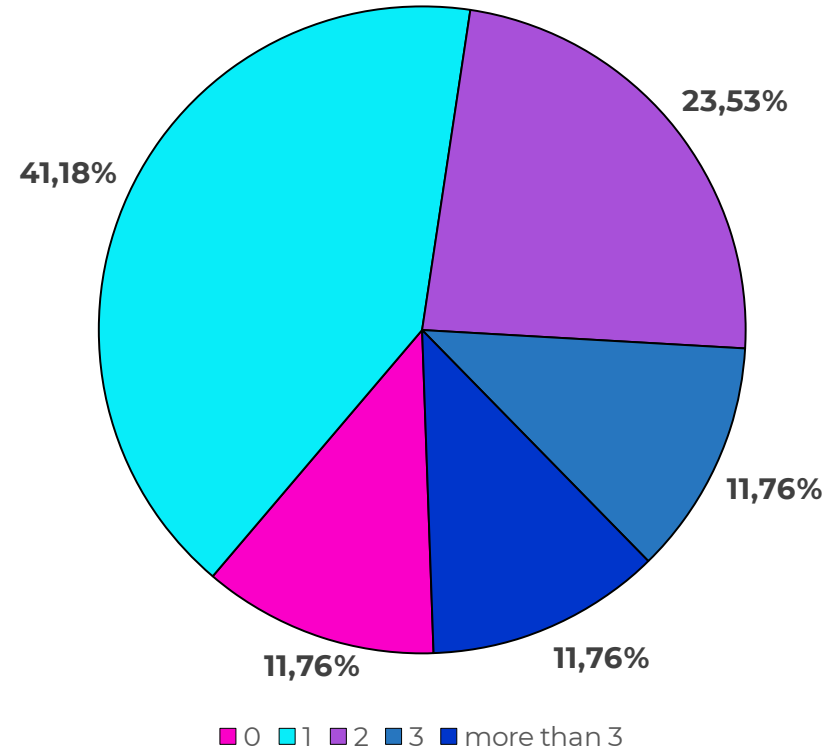

24%

41%

35%

- option 1: limited innovation spillover to industrial partners (supply of: off the shelf, build to print components)

- option 2: industry involvement and Knowledge transfer can bring significant innovation to industrial products and/or processes.

- option 3: industrial innovation is an expected outcome.

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How to improve the industrial exploitation...

Early Engagement of Industrial Partners — 4

Reducing the implementation costs — 3

Doesn't Know — 2

Understanding the potential market value of the Innovation for the Industry — 2

Reducing the Manufacturing Complexity of the Technology — 2

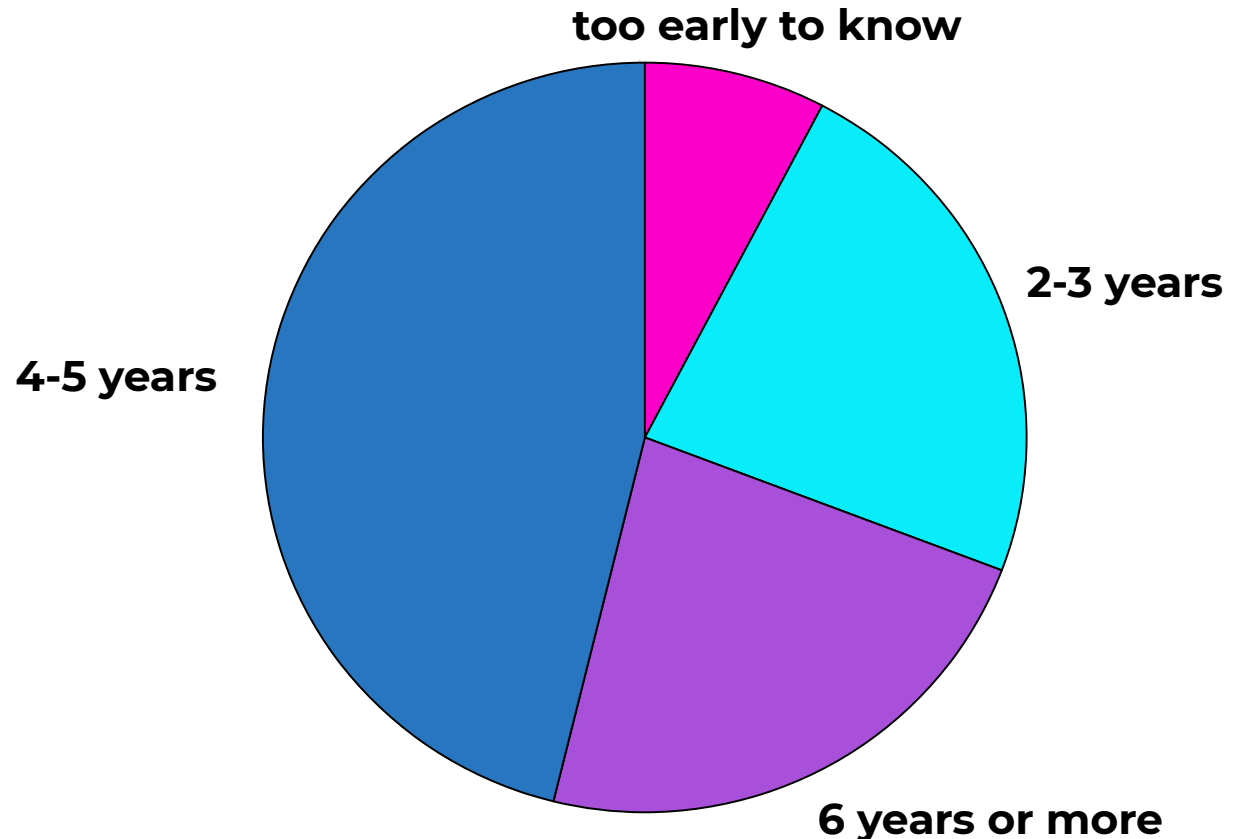Investigated by Wp3.3

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16

How many companies are currently collaborating in your Task

- in 12% of the tasks there is no industrial collaboration
- in 41% -> one partner
- in 47% -> more than one partner

41,18%

23,53%

11,76%

11,76%

11,76%

Legend: 0   1   2   3   more than 3
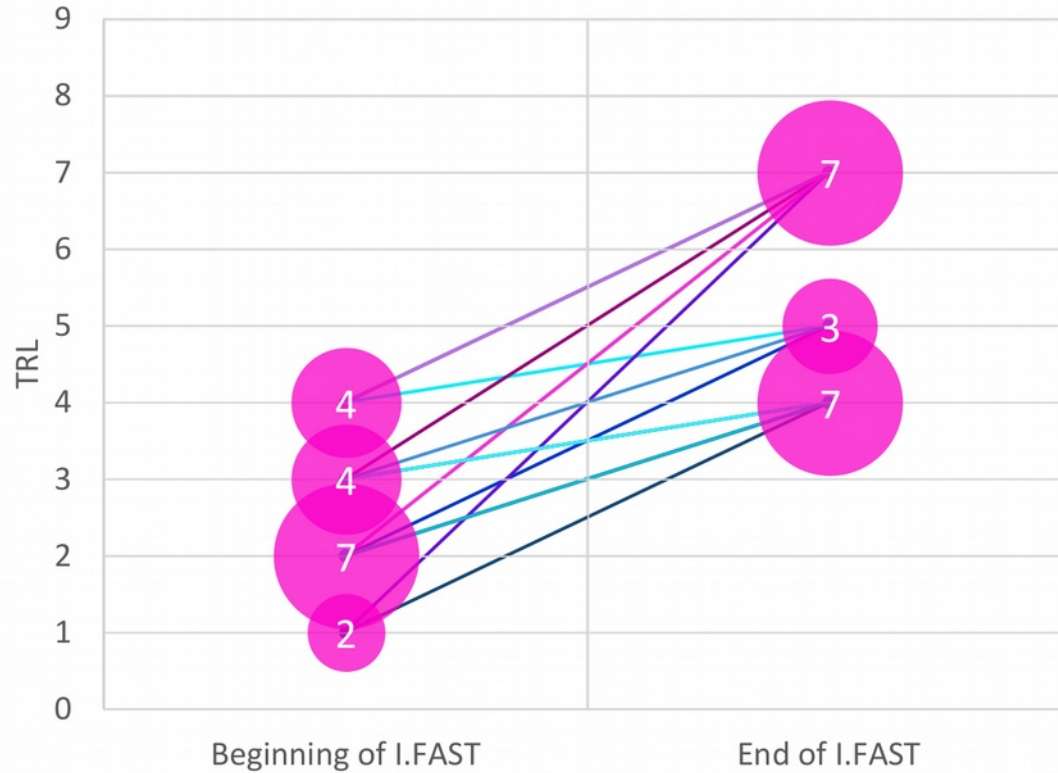
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Possible timescale for new products, processes or services to be market-ready ?

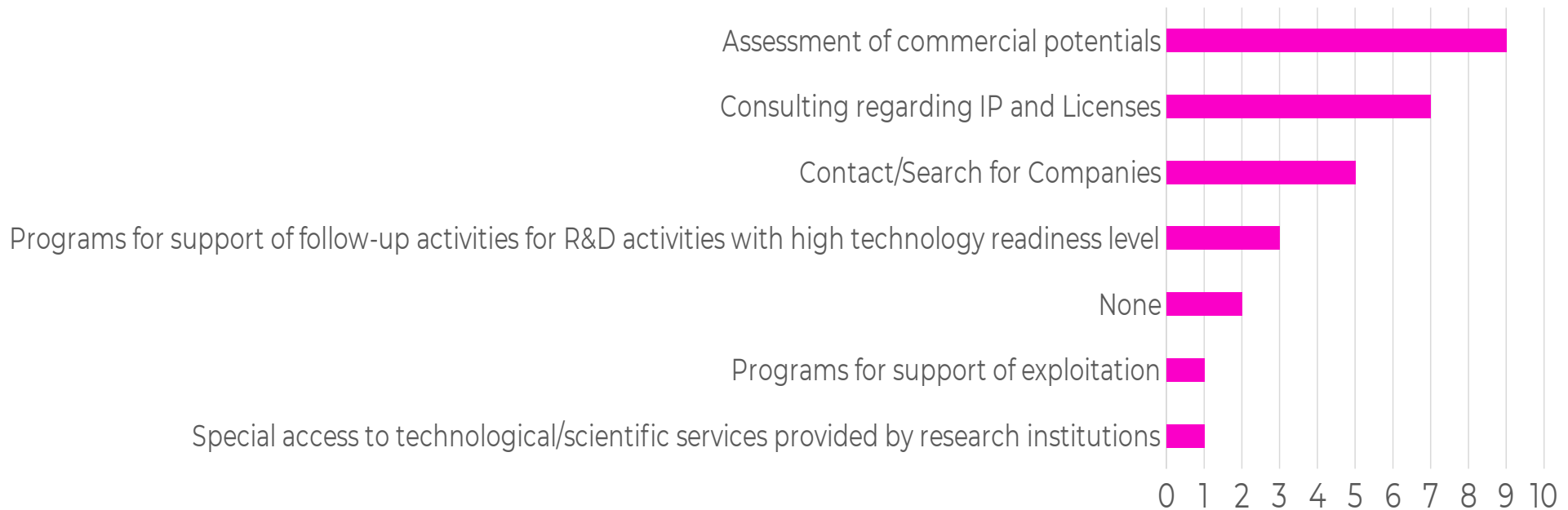- Almost 70% of respondents believes that the new products, processes and services, generated by R&D activities, will be market ready by the end of I.FAST or slightly after (from 2 to 5 years from now)

too early to know

2-3 years

4-5 years

6 years or more

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TRL trajectories in I.FAST

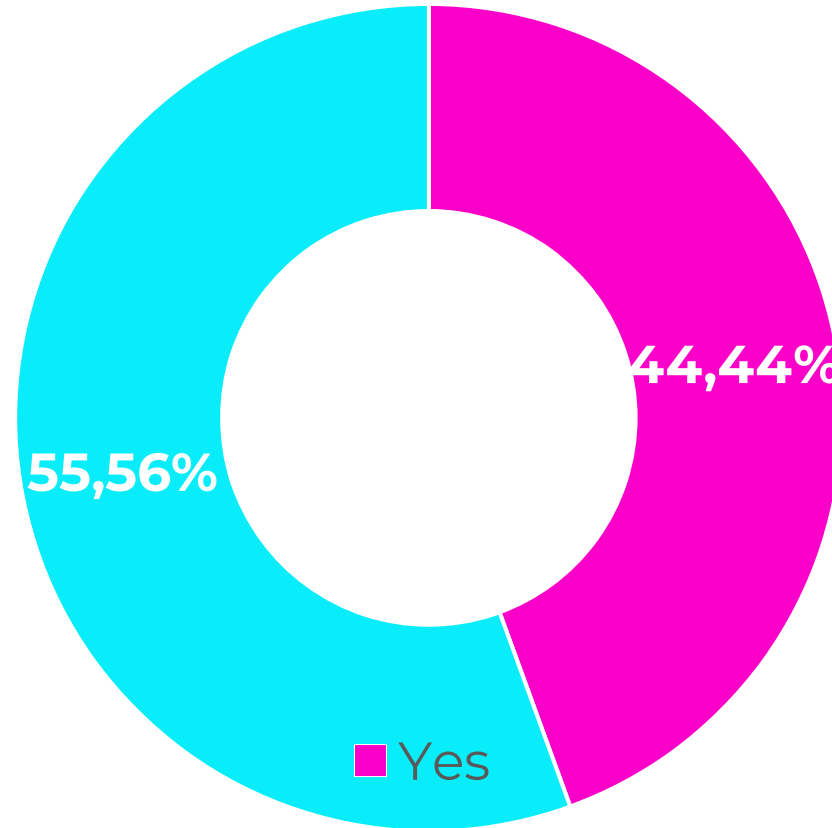# What support by dedicated TT units would be beneficial for further industrial exploitation / transfer?

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Is the activity already in contact with a TT office?

- Technology transfer offices that are mentioned are
  - UKRI / STFC's Business and Innovation Department
  - TT Office of CIEMAT
  - Ecole Polytechnique
  - CNRS valorisation
  - INFN TT

44,44%

55,56%

■ Yes

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IFAST task WP3.3

- Objectives
  - Address the requests by industry for an **extended participation** in R&D activities. In particular through:
    - **early engagement** in (➔ and) low TRL developments;
    - more effective exploitation of **specific capabilities** owned by private companies;
    - definition of **the conditions and the obstacles** to be overcome for achieving such goals.

- Three main actions are foreseen:
  - Perform a **survey** among the companies to identify possible ways of a more effective industry-academia collaboration at early stages.
  - Feedback from **ILO offices**.
  - Analysis and Feedback from **RIs/TIs**.

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Action plan

		2021				2022					2023				2024	
		May July Sept Nov			Jan March May July Sept Nov					Jan March May July Sept Nov				Jan March	
		Year 1			Year 2					Year 3					
		M0 M2 M4 M8 M10 M12			M14 M16 M18 M20 M22 M24					M26 M28 M30 M32 M34 M36					
Step 1	Background. Previous information of interest															
	Private iteration with related industries. Preliminary feedback.															
	Inform WP leaders and Project leader for an eventual help															
Step 2	Internal iteration															
	Definition of key questions															
	Definition of IFAST companies, and TI, RI, others															
Step 3	Define the contact network (under iterative basis)															
	B2B meetings, with companies in IFAST															
	Workshops programmed in WP3 and WP13 and …					WP3 ??		WP13??								
Step 4	Compilation. Iteration with TI, RI															
	Discussion and iteration with all parties involved															
	Deliverable drafting															
	Milestone: M3.3: Collection of initial feedback from industrial partners and RIs participating in I-FAST. *Delivery date: M 15*															
	Deliverable: Report on extended industrial contributions in R&D activities. *Delivery date: month 36*															

Step 1: Background. Previous information of interest (TIARA, AMICI, ARIES, …)
Preliminary iteration with companies closely related to the Task 3.3. partners.
Step 2: Definition of key questions
Definition of companies to be contacted, ILOs, as well as TI, TP.
Step 3: Set of the contact network (under iterative basis).
B2B meetings
Workshops programmed in the project: WP3 and WP13 and …
Step 4: Compilation. Iteration with TI, RI (WP13, T3.2)
Discussion and iteration with all parties involved

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Prelimary feedback

- already many **comments and suggestions** received in the first round of Step-1 interviews

- main topics raised:

  - **effectiveness of the exchange of information** between RI and industry

  - successful and less successful programs and **collaborations schemes**

  - use of **funding opportunities**

  - exploitation of **Industry-Academia complementarity**

  - **IP management**

  - specific contributions that **I.FAST** can provide

  - differences approach in the various European countries

  - early consideration of **market-related** aspects

  - ….

Key questions list ready

1. Funding tools for a better industry-academia approach at early stages

1.1. EC/National Program calls: which are the most interesting?

1.2. Discuss about of procurement/contracting rules.

2. Timing

2.1. Which is the right moment to initiate the industry-academia contacts? Risk and advantages of early contacts

3. Research Strategy

3.1. How do you see the dissemination of the overall strategy of the projects, from the HE projects, communities, task force groups ... ?

3.2. Access to information of new projects

4. Market and competition issues

4.1. Pros and cons about early contacts from the commercial point of view.

4.2. How to handle fair competition at early stages

4.3. How to handle the risk of an early engagement

4.4. How to pin focus on market since the early beginning

5. Education, training, outreach

5.1. Tools to get access to the suitable knowledge. Needed further tools?

6. IP

6.1. Patent model

6.2. Alternatives to the patent model

7. ILO / TT Offices / Industrial Associations

7.1. The roles of ILO / TT Offices / Industrial Associations.

7.2. The roles of the Framework projects (ARIES, IFAST).

7.3. The roles of the Community collaborations (AIDA, LEAPS, TIARA).

8. Network and links

8.1. Is the network of research institutions in Europe efficient?

8.4. How do you see existing links among different fields (Space, PP, Fusion, medical, ...)?

Industry Interview plan

- **Selection of companies** to be contacted within and outside I.FAST done.
  - IFAST is an excellent scenario for carrying out the proposed survey and analysis (but not limited to it).

Company	Country	iFast Rol	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13
Ampegon Power Electronics AG	Switzerland	Industrial Advisory Board	X												
Amplitude Systèmes	France	Associated Partner		X											
ASG Superconductors	Italy				X										
AVS ADDED VALUE INDUSTRIAL ENGINEERING SOLUTIONS	Spain	Industrial Advisory Board													
Bilfinger Noell GmbH	Germany	Beneficiary				X									
Cividec Instrumentation	Austria						X								
COSYLAB	UK	Industrial Advisory Board						X							
ELYTT ENERGY	Spain	Beneficiary													
JEMA ENERGY	Spain								X						
Kyma S.p.A.	Italy	Beneficiary													
Microwave Amps	UK									X					
Oxford Instruments	United Kingdom	Industrial Advisory Board									X				
Pulsar Physics	The Netherlands											X			
RI Research Instruments	Germany	Industrial Advisory Board											X		
Scanditronix	Sweden	Beneficiary												X	
SIGMAPHI	France	Industrial Advisory Board													X

Collaboration of WP and task leaders might be needed in some cases!
Thanks in advance for your help

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WP3 Conclusions

- All WP3 activities going on as foreseen in the proposal

- IAB is setup and has already started to be involved in I.FAST

- Organization of the Industry day next year is starting

- Many thanks to WP and Task leaders for the contributions to the surveys