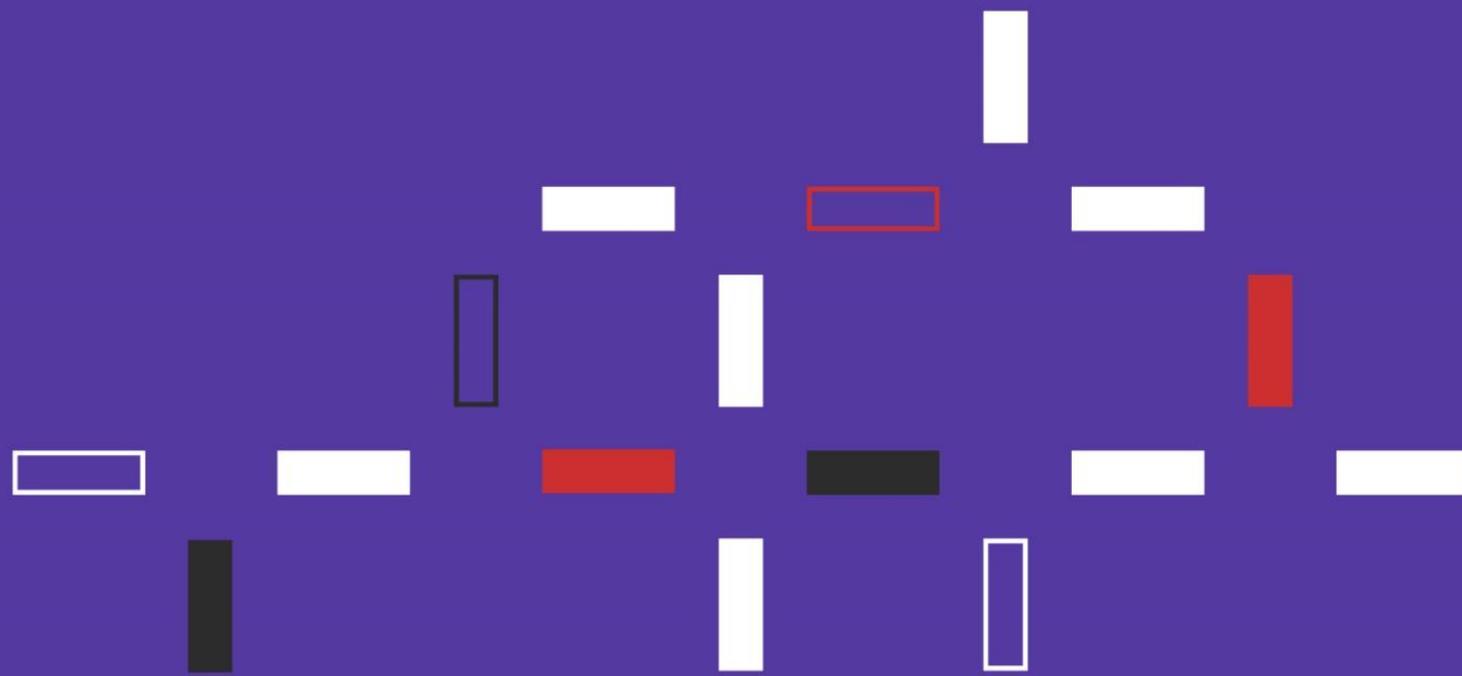




Backing visionary entrepreneurs

Stela Tkatchova
EIC Programme Manager for Space
27/04/2022

European Innovation Council and SME
Agency



Horizon Europe Structure



HORIZON EUROPE

EURATOM



* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme



Europe's most ambitious innovation initiative

- **€10 billion** programme to identify, develop and scale up breakthrough technologies and disruptive innovations in Europe
- **Unique** in the world to combine research on emerging technologies with Accelerator for start-ups, SMEs and scale-ups
- EIC set to become **largest deep-tech investor** in Europe (over €3 billion)
- Enhances the **European innovation ecosystem** (partnerships with EIT, ERC, etc)
- **First work Programme** adopted 18 March 2021, €1.5 billion
- **Second Work Programme** adopted 7 February 2022, **€1.7 billion**





What's holding back the European space innovation?

Innovation
performance

- **Strong research performance not often translated** into commercialisation

Innovation
funding

- Financing gaps (2 "valleys of death") in
- **Transition** from lab to enterprise
 - **Scaling up** for high-risk innovative start-ups
 - **Limited VC** in EU Newspace SMEs & start-ups

Innovation
ecosystem

- Newspace SME&start-ups companies emerging in all EU member states
- Need to **include all EU regions and all talent** (especially female)



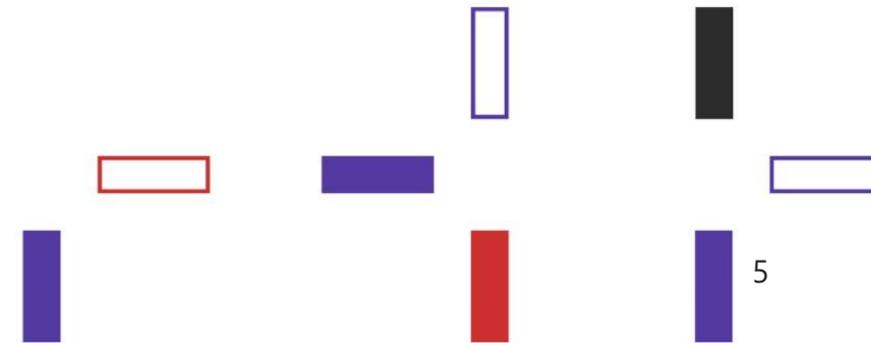


Recent Space Industry Trends – Part I

- Growing number of satellite launches, up to 4,852 operational satellites in March 2022 (Union Concerned Scientists),
- Competitive driving forces, changing business models and disruptive technology innovations and solutions
- Increased demand for fast track flight qualification and launch of satellites and payloads create new opportunities/challenges
- Space SMEs and start-ups need to discover, identify and target commercial markets, attract investors and customers besides the traditional ones.
- They will need to develop "user driven", innovative, interoperable and affordable solutions and services for upstream/downstream applications

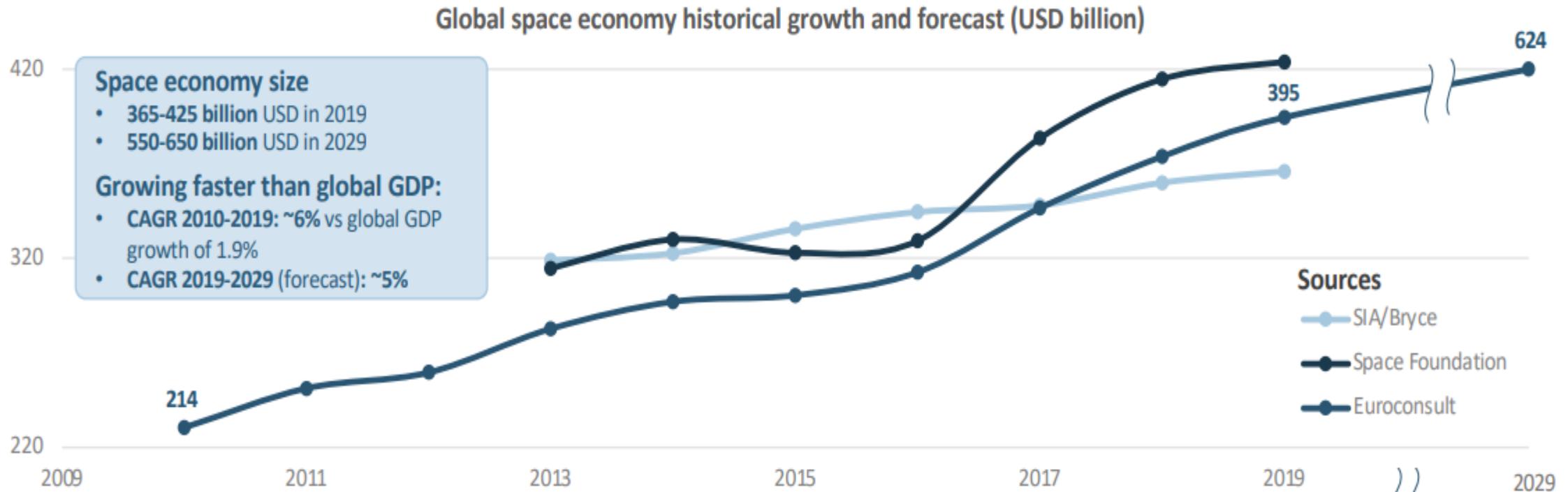


Courtesy: ESA





Global Space Economy Projections



Courtesy: SpaceTech Partners consolidation

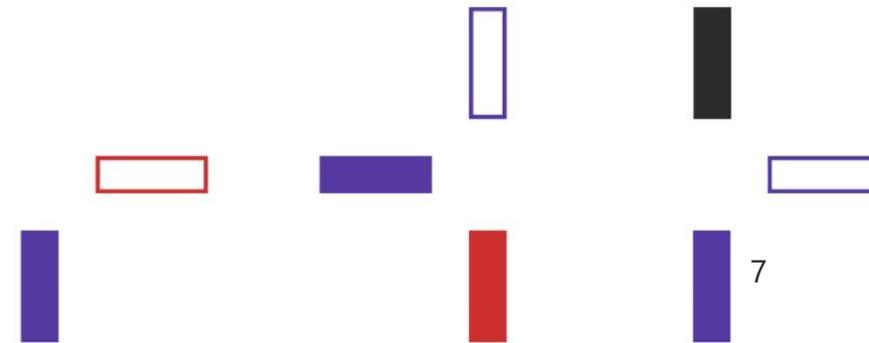


Recent Space Industry Trends – Part II

- In-Orbit Satellite servicing, Active Debris Removal, In Space Manufacturing and Assembly
- LEO mega-constellation growth and aging GEO satellites
- EO and GNSS markets growth and maturation
- Innovative propulsion technologies and emergence of space tugs for satellite servicing
- Modular satellite concepts, space tugs and “plug & play” architectures
- Disruptive space technologies are of **critical importance** to the growth the EU Space Economy



Courtesy: MEESST project – EIC Pathfinder



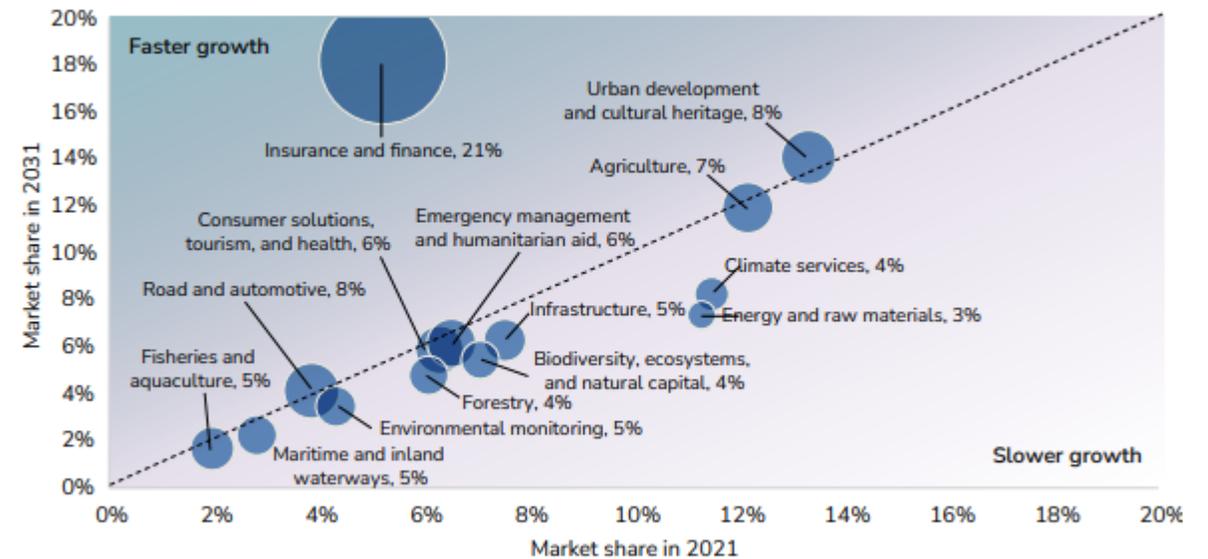


EO markets growth in the next decade

Distribution of revenue by segments (€m, 2021)



Segment's market share in 2021 and 2031

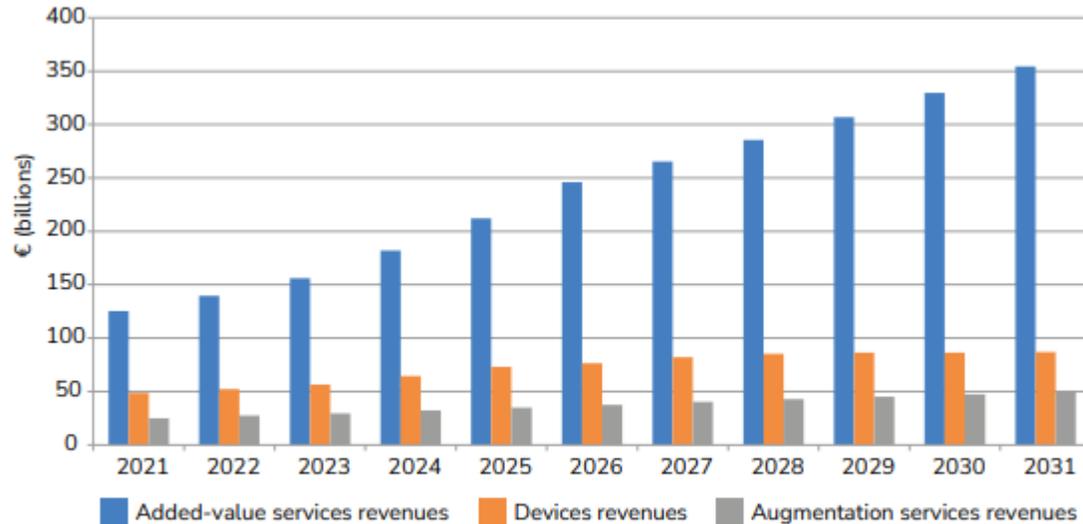


Note: The size of the bubbles represent the CAGR of each segment between 2021 and 2031.

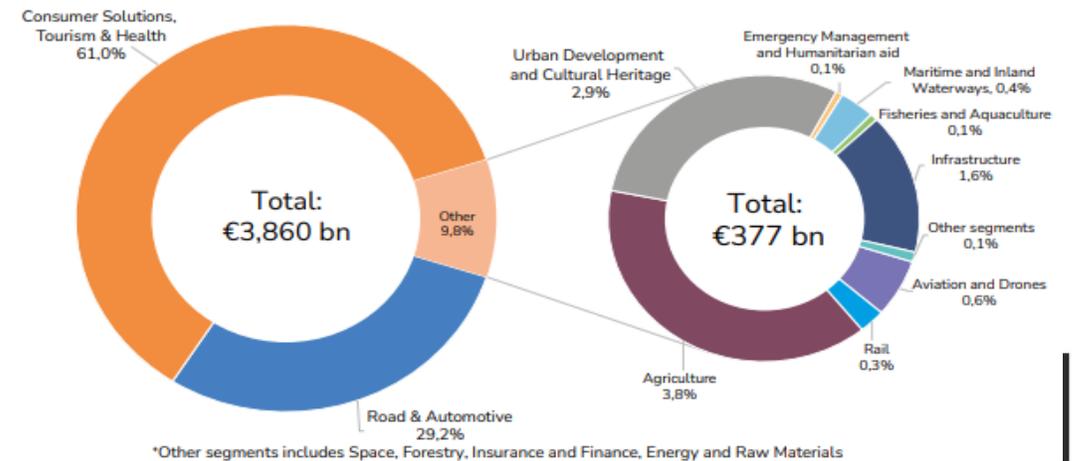


GNSS markets growth in the next decade with 72% added value services of the GNSS revenues in 2031

Revenue from GNSS devices sales and services



Cumulative revenue by segment 2021–2031



Courtesy: EUSPA EO and GNSS Market Report



Disruptive Space Technologies Innovation

- The EIC supports breakthrough technologies and game changing innovations for space SMEs and start-ups
- Funding their disruptive/high-risk ideas and supporting them in the process of disruptive innovation, commercialization and demonstration with transversal EIC Pathfinder, Transition and Accelerator programs



© E.T.Pack

Courtesy: E.T.Pack project – EIC Transition



One stop shop for breakthrough, deep-tech, market-creating innovators

- Open to all innovators, in any field, at any time
- Complemented by targeted funding on strategic technologies and innovations
- Highest potential innovators selected on basis of high-risk/ high-impact idea, scale-up potential, and team

Agile funding from idea to investment

- Pathfinder for advanced research on emerging technologies (<€4 million)
- Transition from lab to commercial setting (<€2.5 million)
- Accelerator to scale up innovations by start-ups & SMEs (<€2.5 million grant, <€15 million equity)

Building ecosystems and communities

- Access to business acceleration services (coaches, mentors); to corporates & investors; to knowledge partners
- EIC Programme Managers to develop visions for breakthroughs, manage portfolios, and connect to ecosystems
- Crowding in other investors (VC, corporate VC, etc.)





EIC main instruments and characteristics

Pathfinder (TRL1-4)

- **For consortia**
- Early stage research on breakthrough technologies
- **Grants up to €3/4 million**

Transition (TRL 4-6)

- **For consortia and single entities**
- Technology maturation from proof of concept to validation
- Business & market readiness
- **Grants up to €2.5 million**

Accelerator (TRL 6-9)

- **For individual SMEs**
- Development & scale up of deep-tech/ disruptive innovations by startups/ SMEs
- Blended finance (**grants up to €2.5 million; equity investment up to €15 million or above**)

- Focus on **breakthrough, game-changing, market-creating, deep-tech**
- **Mainly bottom up** complemented by targeted funding on strategic technologies/ challenges
- Steered by **EIC Board** of leading innovators (entrepreneurs, investors, researchers, ecosystem)
- **Business Acceleration Services** (coaches/ mentors, corporates, investors, ecosystem)
- **Pro-active management** (roadmaps, reviews, re-orientations, etc) with EIC Programme Managers
- **Fast track access** to Accelerator for results from EIT, EIC Pathfinder,



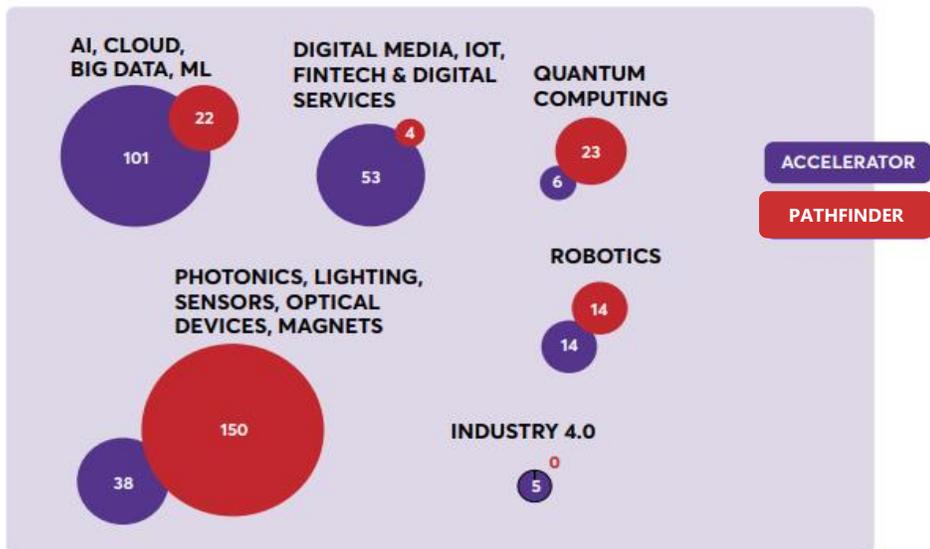


Accelerator - Open	Short applications - Apply any time all year round	~€623m (grant & equity)
Accelerator – Challenges <ul style="list-style-type: none"> Technologies for Open Strategic Autonomy (<i>healthcare, critical raw materials, quantum, space, security etc</i>) Technologies for 'Fit for 55' (<i>energy, buildings, mobility, land use, green digital, etc</i>) 	Full applications – 3 cutoffs in 2022: <ul style="list-style-type: none"> 23 March 15 June 5 October 	~€537m (grant & equity)
Pathfinder - Open	Deadline: 4 May	~€183m
Pathfinder - Challenges <ul style="list-style-type: none"> Carbon dioxide & nitrogen management and valorisation; Mid-long term, systems-integrated energy storage; Cardiogenomics; Healthcare continuum technologies; DNA-based digital data storage; Alternative quantum information processing, communication, and sensing 	Deadline: 19 October	~€167m
Transition – Open	Apply any time all year round	~€70.5m
Transition – Challenges <ul style="list-style-type: none"> Green digital devices for the future; Process and system integration of clean energy technologies; RNA-based therapies and diagnostics for complex or rare genetic diseases 	Full applications – 2 cutoffs in 2022: <ul style="list-style-type: none"> 4 May 28 September 	~€60.5m

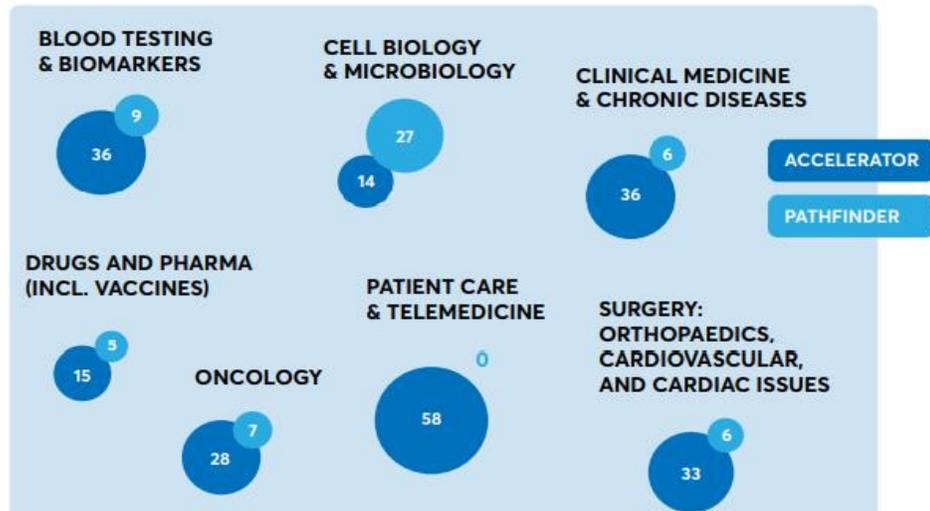
Impacts of the pilot: EIC Pathfinder projects and Accelerator companies in all main fields of breakthrough technology



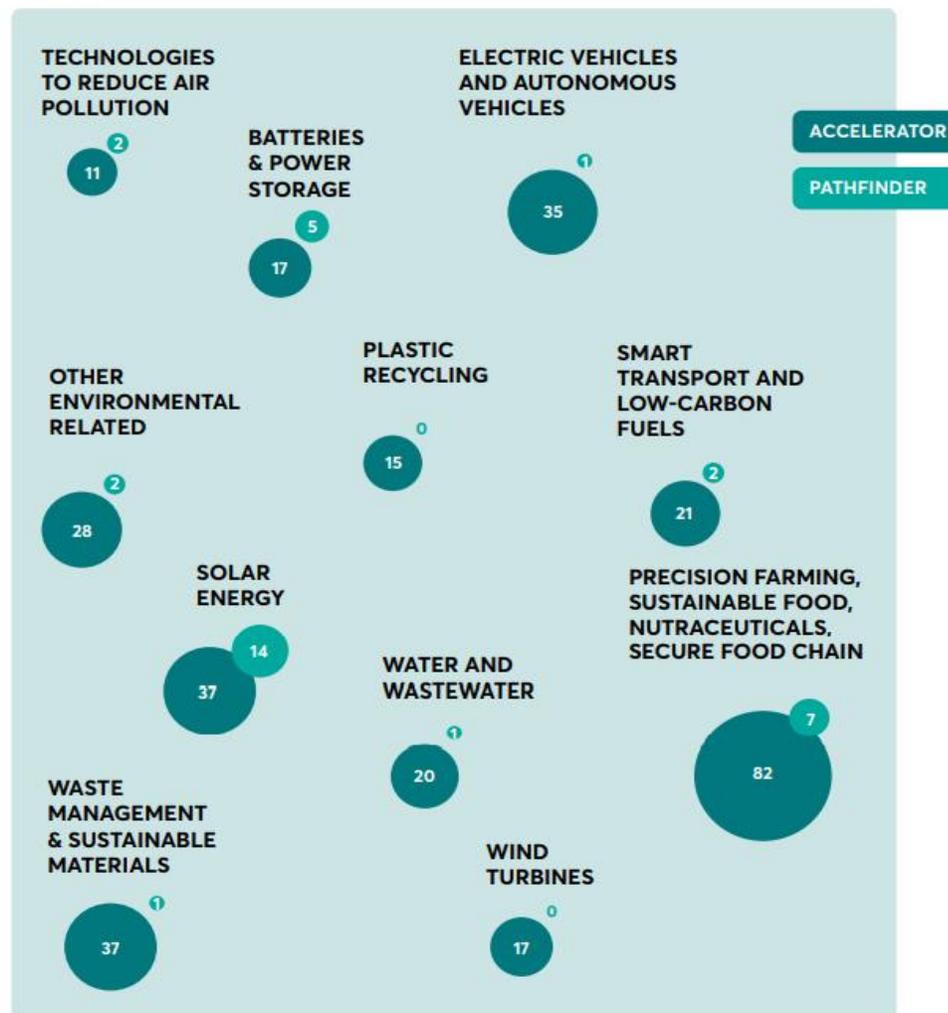
For Digital and Industry 5.0



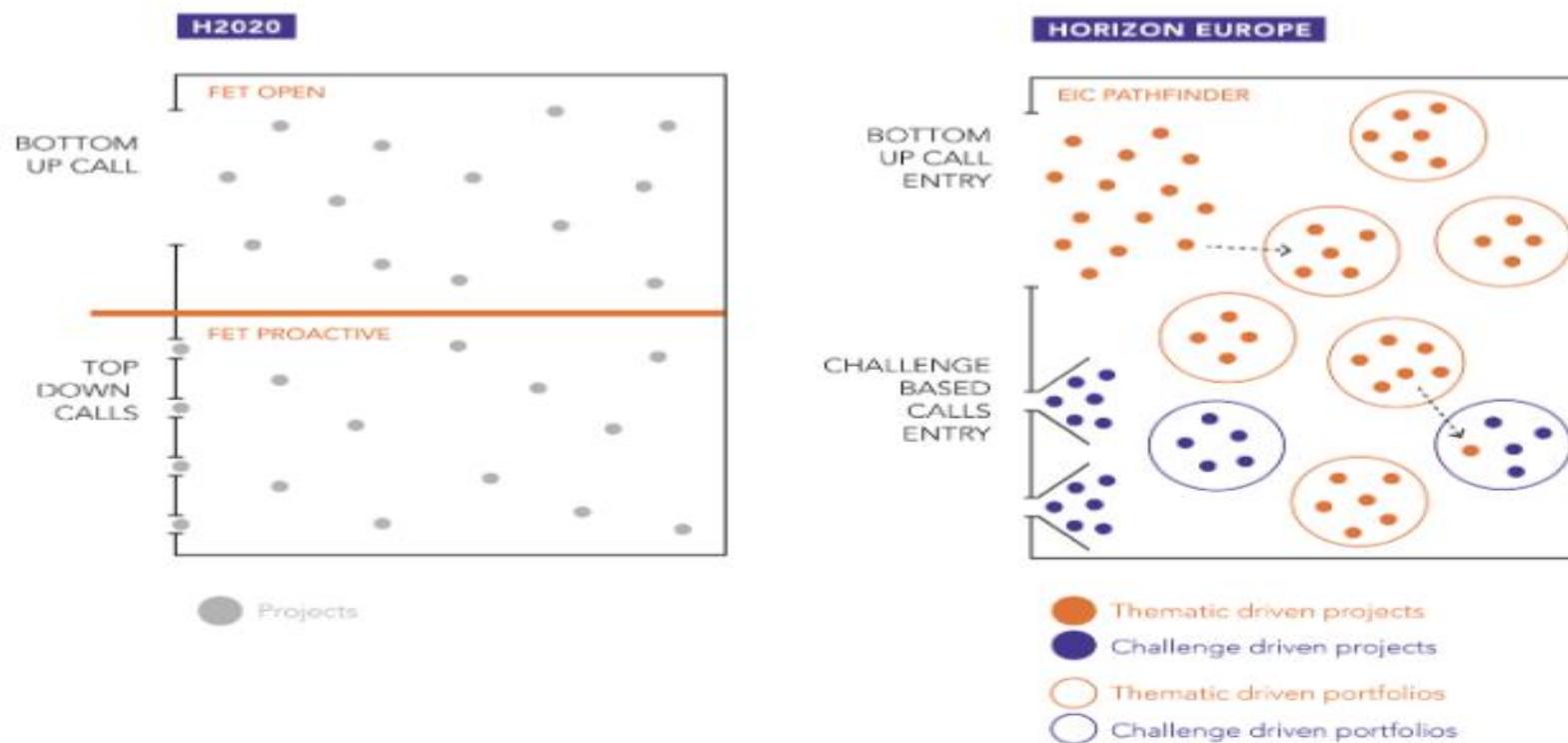
For Health



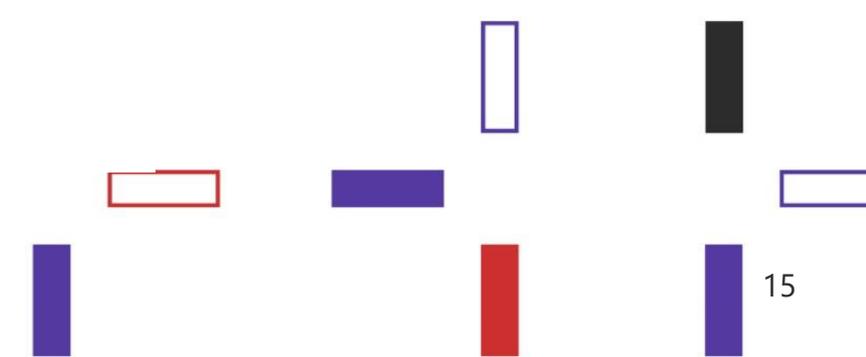
For Green



The "Гювеч" principle



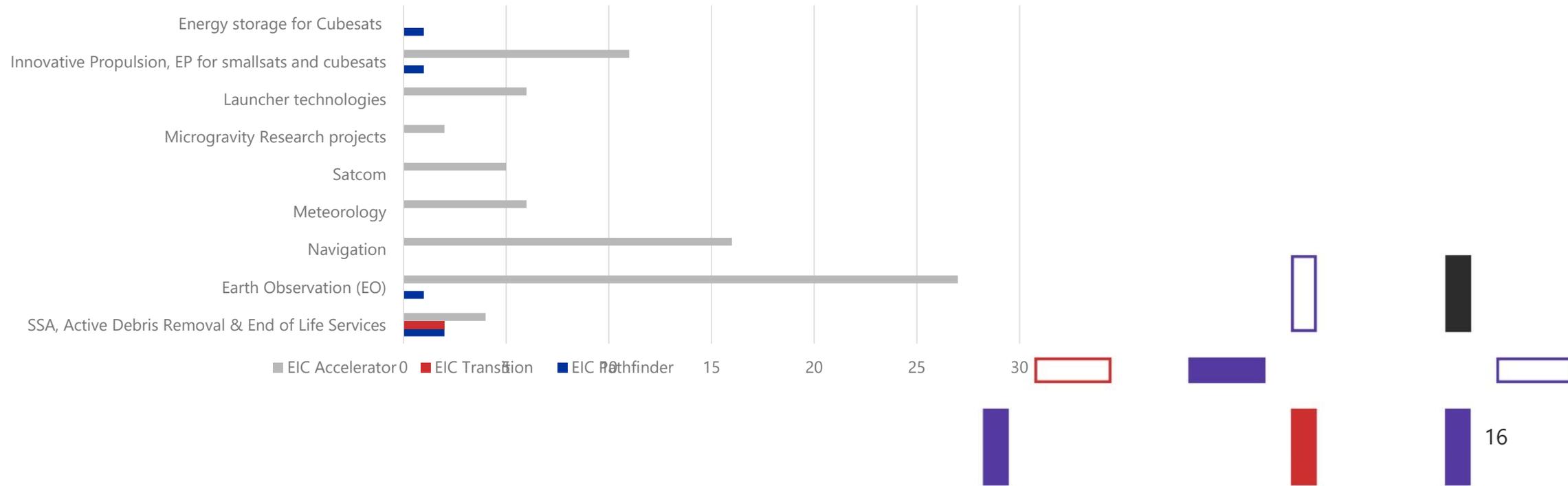
Courtesy: EIC Implementing the pro-active management of the EIC pathfinder for breakthrough technologies & innovations- Independent Expert Report





EIC initial space projects portfolio

EIC Space projects portfolio April 2022



Programme Managers main activities

Identifying the emerging challenges for Europe's deep-tech roadmap

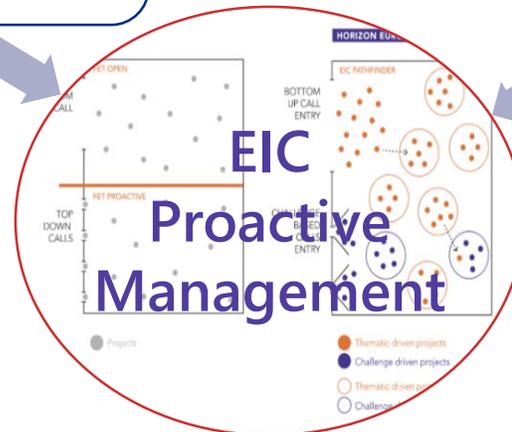
Science and innovation intelligence activity

Hands on approach

Strategic assessment and clustering of projects
Building strategic intelligence portfolios
Scientific / Business portfolios management

EIC Ambassador

Networking with other programmes and with innovation ecosystem communities
Outreach and organization of events, participation to national events / workshops





Conclusions

- EIC space projects aim to offer disruptive, interoperable, flexible, multi-disciplinary and affordable solutions
- Disruptive space technologies are of ***critical importance*** to the growth the EU Space Economy
- *How do we develop interoperable, scalable, affordable and cost-effective solutions in order to protect EU space infrastructure?*



Thank you!

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<https://eic.ec.europa.eu>

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