



**HORIZON 2020 –
Year 2020 Work Programme**

**Funding Opportunities: Collaborative
Research and Individual opportunities.**

Sergio Fernandez-Ceballos – National Delegate in Ireland for H2020
NMPB – Enterprise Ireland

Sept 26, Dublin

**1. Excellent
Science**

European Research
Council

Future and Emerging
Technologies

Marie Curie Actions

Research
Infrastructures

**2. Industrial
Leadership**

Leadership in Enabling &
Industrial Technologies

- information and communication technologies
- nanotechnologies
- advanced materials
- biotechnology
- advanced manufacturing and processing
- space

Access to Risk Finance

Innovation in SME

**3. Societal
Challenges**

7 Challenges

- Health, Demographic Change and Wellbeing
- Food security, sustainable agriculture, marine and maritime research and the bio- economy
- Secure, Clean and Efficient Energy
- Smart, Green and Integrated Transport
- Climate Action, Resource Efficiency and Raw Materials
- Europe in a changing world: Inclusive, Innovative and Reflective Societies
- Secure Societies – Protecting Freedom and Security of Europe and its Citizens

Joint Research
Centre (JRC)

Widening Participation

Science with & for Society

European Institute of
Innovation and
Technology (EIT)

Joint Programming
P2P

Joint Technology
Initiatives (JTIs)
P2B

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ICT, Advanced Materials, Advanced Manufacturing and Industrial –Key Enabling Technologies -

COLLABORATIVE RESEARCH

Year 2020 last WP - what is new:

- ICT and Advanced Manufacturing call Budget ≈EUR1.5bn, 20% more than other years.
- Less number of topics.
- Larger budget per topic in cases.
- 50% funding to industry in cases; Lump-sum pilot.
- Deadlines from Dec'19
- Industry programmes, projects to reach high TRL



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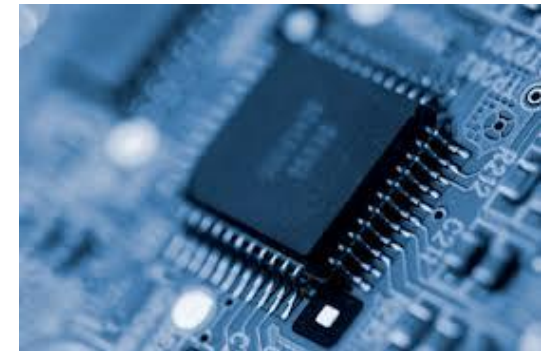
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1. Industrial Leadership - ICT

- **Call summary – ICT**
- **Artificial Intelligence and Technologies for Digitising European Industry and Economy**
- **European Data Infrastructures: HPC, Big data and Cloud technologies**
- **5G**
- **Next Generation Internet (NGI)**
- **Cross-cutting activities**
 - **Call - Digitising and transforming European industry and services: digital innovation hubs and platforms**
 - **Call - Cybersecurity**



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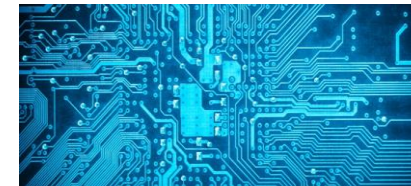




Artificial Intelligence and Technologies for Digitizing European Industry

- Cover wide range of ICT technologies including micro-electronics, cyberphysical systems, photonics and robotics. Systemic integration from smart integrated components to cyber-physical systems
- Complementary to the JU for Electronic Components and Systems (ECSEL JU)
- Organised in eight topics in 2020:
 - ICT-46-2020: Robotics in Application Areas and Coordination & Support
 - ICT-47-2020: Research and Innovation boosting promising robotics applications
 - ICT-48-2020: Towards a vibrant European network of AI excellence centres
 - ICT-49-2020: Artificial Intelligence on demand platform
 - ICT-38-2020: Artificial intelligence for manufacturing
 - ICT-36-2020: Disruptive photonics technologies
 - ICT-37-2020: Advancing photonics technologies and application driven photonics components and the innovation ecosystem
 - ICT-50-2020: Software Technologies

349,5M€



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European Data Infrastructures

- Enable the creation of a world-class HPC/Big Data ecosystem
- Complementary to the work in the Excellent Science pillar under Research Infrastructures, FET and EuroHPC (on High Performance Computing)
- Develop competitive cloud solutions based on advanced platforms and services and cloud-based software and data application
- Organised in two topics in 2020:
 - ICT-51-2020: Big Data technologies and extreme-scale analytics
 - ICT-40-2020: Cloud Computing: towards a smart cloud computing continuum



51,5M€

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Next Generation Internet (NGI)

- Next generation technologies for the internet in 10-15 years based on European values such as openness, neutrality, cooperation, inclusion, transparency and protection of data and privacy.
- Organised in five topics:
 - ICT-54-2020: Blockchain for the Next Generation Internet
 - ICT-55-2020: Interactive Technologies
 - ICT-56-2020: Next Generation Internet of Things
 - ICT-57-2020: An empowering, inclusive Next Generation Internet
 - ICT-44-2020: Next Generation Media

110 M€



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Digitising and transforming European industry and services: digital innovation hubs and platforms. Big Data Infrastructure

- Organised in five topics in 2020:
 - DT-ICT-03-2020: I4MS (phase 4) - uptake of digital game changers
 - DT-ICT-04-2020: Photonics Innovation Hubs
 - DT-ICT-05-2020: Big Data Innovation Hubs
 - DT-ICT-09-2020: Boost rural economies through cross-sector digital service platforms
 - DT-ICT-12-2020: AI for the smart hospital of the future
- Big Data Infrastructure:
 - Organised in two topics in 2020:
 - ICT-51-2020: Big Data technologies and extreme-scale analytics
 - ICT-40-2020: Cloud Computing: towards a smart cloud computing continuum

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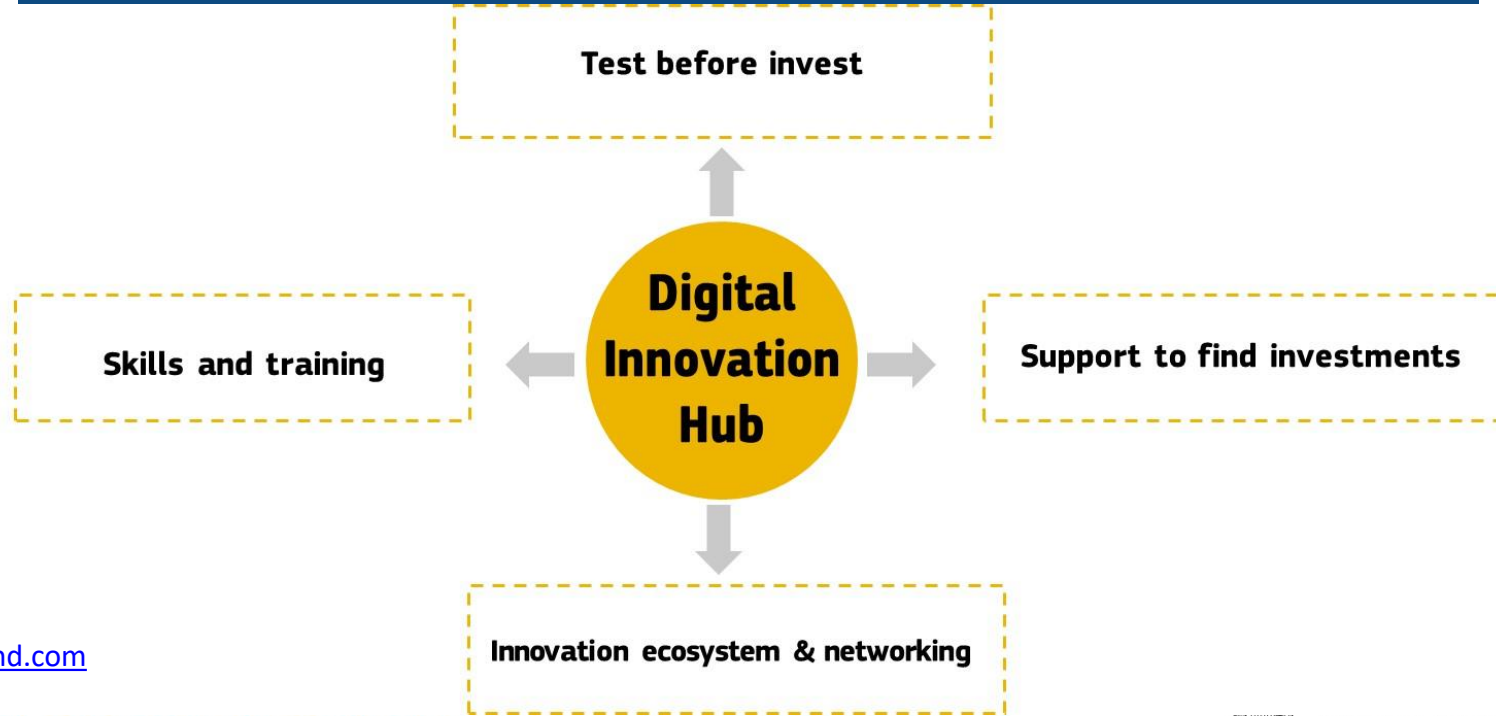
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Digital Innovation Hubs

Digital Innovation Hubs support companies – in particular SMEs – and public organisations in their digital transformation



National Contact Point ICT call:
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2. Industrial Leadership – Advanced Manufacturing & Materials

CALL - FOUNDATIONS FOR TOMORROW'S INDUSTRY		
Challenge 1.1-2020: Open Innovation Test Beds		
Tentative 2020: DT-NMBP-04-2020: Open Innovation Test Beds for bio-based <u>nano</u> -materials and solutions	TRL 4-7	Innovation Action (IA)
DT-NMBP-05-2020: Open Innovation Test Beds for functional materials for building envelopes	TRL 4-7	IA
DT-NMBP-06-2020: Open Innovation Test Beds for <u>nano</u> -pharmaceuticals production	TRL 4-7	IA
Challenge 1.2 – 2020: Materials Characterisation and computational modelling		
Tentative 2020: DT-NMBP-11-2020: Open Innovation Platform Test Beds for Materials Modelling (TRL 3 – 6	Research and Innovation Action (RIA)
Tentative 2020: NMBP-35-2020: Towards harmonised characterisation protocols in NMPB	TRL 4- 6	RIA
Challenge 1.3 – 2020: Governance, Science based risk assessment and regulatory aspects		
Tentative 2020: NMBP-16-2020: Safe by design, from science to regulation: multi-component nanomaterials	TRL 4-6	RIA
NMPB-36-2020: Monitoring and safety of transport infrastructures		CSA
NMPB-37-2020: Incentivising newcomers		CSA
NMPB-38-2020: Citizen and industrial technologies		CSA

Challenge 2.1 – 2020: Factories of the Future		
Tentative 2020: DT-FoF-07-2020: Assembly of micro parts	TRL 4- 6	RIA
DT-FOF-09-2020: Energy efficient manufacturing systems management	TRL 5-7	IA
DT-FoF-10-2020: Pilot lines for large-part high-precision manufacturing	TRL 5-7	IA (50%)
DT-FoF-11-2020: Quality control in smart manufacturing	TRL 5-7	IA
Challenge 2.2 - 2020: Industrial Biotechnology		
Tentative 2020: BIOTEC-06-2020: Reprogrammed microorganisms for biological sensors	TRL 3-6	IA
BIOTEC-07-2020: Multi-omics for the optimisation of genotype-phenotype associations	TRL 4- 6	RIA
BIOTEC-08-2020: New biotechnologies for remediation of harmful contaminants	TRL 3 – 6	RIA
BIOTEC-09-2020: Upcycling bioplastics of food and drinks packaging	TRL 3 – 6	RIA
Challenge 2.3 - 2020: Medical Technology Innovations		
Tentative 2020: NMBP-21-2020: Biological scaffolds for specific tissue regeneration and repair	TRL 3- 5	RIA
DT-NMBP-23-2020: Next generation organ-on-chip	TRL 3 - 5	RIA

BY ENTE



IRISH RESEARCH CENTRE FOR AN CHOMHAIRNIA
www.researchcentre.ie



Ireland - For what's next



CALL – INDUSTRIAL SUSTAINABILITY		
Challenge 3.1 - 2020: Sustainable process Industries	Section partly moved to the Cross-Cutting new programme – see below.	
CE-SPIRE-08-2020: Novel <u>high performance</u> materials and components for future low carbon technologies and processes	TRL 3-5	RIA
DT-SPIRE-11-2020: Artificial Intelligence and Big Data Technologies for Process Industries		CSA
Challenge 3.2 - 2020: Catalysing the circular economy	Section moved to the Cross-Cutting new programme – see below.	
Challenge 3.3 - 2020: Clean Energy through innovative materials		
Tentative 2020: LC-NMBP-31-2020: Materials for off shore <u>energy</u> .)	TRL 4-6	IA
LC-NMBP-28-2020: Next generation of thin film PV technologies (moved now to the H2020 Energy LC-SC3-RES9-2020)		

Challenge 3.5 - 2020: Energy Efficient Buildings		
Tentative 2020: LC-EeB-04-2020: Industrialisation of building envelope for the renovation market	TRL 5 – 7	IA
LC-EEB-07-2020: Smart operation of proactive residential building	TRL 5 – 7	IA
LC-EEB-08-2020: Digital building twins	TRL 4- 6	RIA

Deadlines : Single Stage NMP **2020** topics: 05/02/20. Two Stage NMP **2019** 1st stage: 12/12/19, 2nd stage: 14/05/20. Exceptions: [Biotec08: 15/04/20, BAT-12,13,14,15: 16/01/2020, BAT8, 9,10,11: 21/04/20, NMP28: 11/12/19] Discuss with your NCP 2020 topics and deadlines.

NCP for NMPB: sergio.ceballos@enterprise-ireland.com

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3. Fast Track to Innovation Programme

- Mandatory industry involvement can consist of the following...:
 - ... either 60% of the overall budget of the proposal must be allocated to consortium partner(s) from industry
 - ... or the minimum number of industry participants must be 2 in a consortium of 3 or 4 partners, and 3 in a consortium of 5 partners.
- Proposals should include a business plan (market development strategy)
- SMEs and first-time industry applicants particularly

HORIZON 2020 **wellcome** SUPPORT NETWORK LED BY ENTERPRISE IRELAND

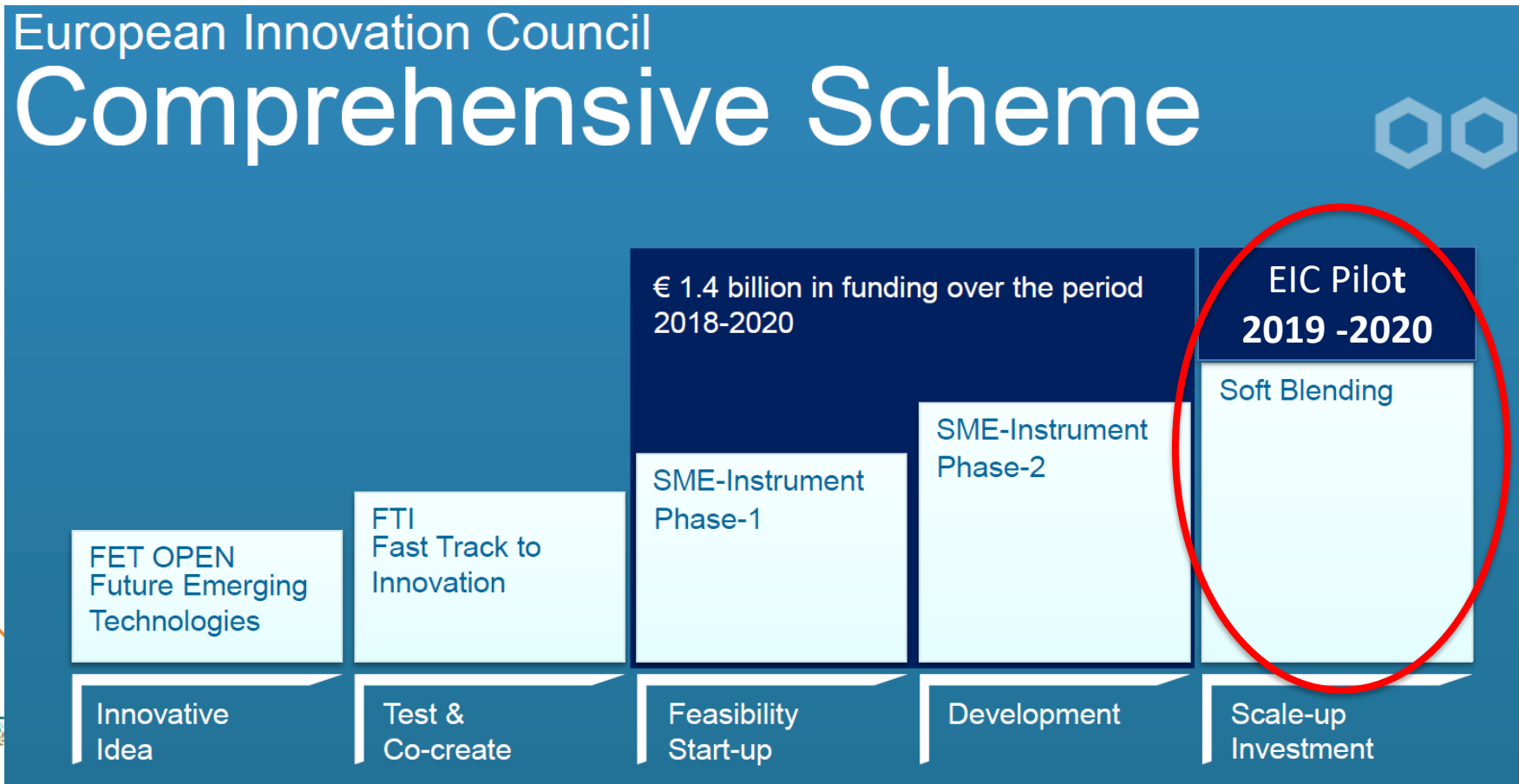


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4. **Non-Collaborative Research**: Individual SME Applications (RTOs/HEI can be subcontracted) – IA (70% funding)





ACCELERATOR:
Start-ups, SMEs
and entrepreneurs

- ▶ For development and scaling up of high risk innovations by startups and SMEs
- ▶ Grant funding of up to €2.5 million (70% of costs)
- ▶ Option of equity investment of up to €15 million
- ▶ Access to EIC coaching and mentoring services, pitches with corporates, VCs, etc
- ▶ All funding is open (no predefined thematic areas)

- *Pitch deck* (pdf format - 10MB) that will be used if invited to the **interview** provided at application stage

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ENTERPRISE IRELAND
where innovation means business

HORIZON 2020
SCIENCE | INDUSTRY | SOCIETY

artomatix €1.12m	gm STEEL €1.09m	NVP ENERGY €1.01m	Arralis €1.12m	Radisens DIAGNOSTICS €4.49m
SIGMOID PHARMA €1.6m	RMS Reflective Measurement Systems €0.99m	Vision-net €1.26m	biosensia €0.66m	HYDRO INTERNATIONAL €0.18m
PMD SOLUTIONS €4.27m	SIRIUS XT €3m	Brandon Bioscience €0.64m	Finesse MEDICAL €0.40m	Innova Formulations Private Limited €1.72m
NURITAS LIFE-CHANGING INGREDIENTS €2.20m	exergyn €2.48m	cellix €1.12m	ENBIO €1.52m	oncomark €2.75m

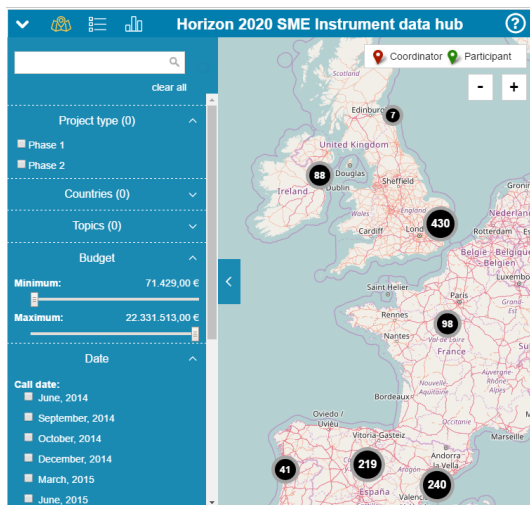
Irish Success

AltraTech €2.97m	AVECTAS €2.09m	axonista €1.71m	DESIGNPRO AUTOMATION €1.94m
EIRECOMPOSITES €1.32m	LUXCEL BIOSCIENCES €1.44m	PureFiber €1.88m	Westway health redefining antimicrobials €2.49m
SWIFT COMPLY €1.55m	SoapBox Labs €1.49m	valitacell €2.03m	w1Da €0.32m
2020 NATIONAL SUPPORT NETWORK LED BY ENTERPRISE IRELAND			
	DiaNia TECHNOLOGIES €1.75m		

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Interactive map to view successful companies, budgets, abstracts, locations etc.

<https://fti.easme-web.eu/>
<http://ec.europa.eu/easme/en/horizons-2020-sme-instrument>

Accelerator cut-off dates

- 9 October 2019 (Grant + equity investment)
- 8 January 2020
- 18 March 2020
- 19 May 2020
- 7 October 2020

FTI cut-off dates

- 22 October 2019
- 19 February 2020
- 08 June 2020
- 26 October 2020

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Successful applications –Industrial Programmes – Evaluation criteria

- Demonstrate a disruptive/novel innovation,
- Have a clear ambition to grow at EU level, will **generate revenues and create jobs**.
- Demonstrated knowledge of target market / convincing commercialisation plan.
- Explain the market conditions and the evolution of the competition including concrete and realistic figures on the market share and sales price.
- Show at least 3 years of projection of sales volume, turnover and number of jobs created.
- Demonstrate that your project has a **European or international market**
- **Intellectual property** - Protection very important and must be explained.

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Thank you for your attention



www.ec.europa.eu/research/horizon2020

www.horizon2020.ie



H2020 Industrial Leadership programmes

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