

# Open Innovation

7 Nov 2023 | Shreeram Joshi, Evonik India Pvt. Ltd.

# Agenda

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1. Brief introduction to Evonik
2. What is Open Innovation
3. Open Innovation at Evonik
4. Q&A

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# Leading Beyond Chemistry – Our purpose

Evonik on the way to become a best-in-class specialty chemicals company



Leading ...

- Leading market positions in **80%** of our business
- Leading **key financial indicators**

... Beyond ...

- **Connecting skills** and perspectives
- Develop **solutions** together with partners
- **Sustainability** key driver of growth

... Chemistry

- Clear focus on **specialty chemicals**
- Target **100% specialty** portfolio

# That's specialty chemicals. And that's where we're among the best in class.

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**€18.5 billion**

sales\*

**€2.49 billion**

adjusted EBITDA\*

**€1.17**

dividend per share\*\*

**13.5 %**

adjusted EBITDA margin\*

**~80%**

of sales from  
leading market positions

**€856 million**

investment in tangible assets

**>34,000**

employees

**108**

nationalities

**€2.26**

adjusted earnings  
per share\*

\* Fiscal 2022, ongoing activities

\*\* Proposal to the Annual General Meeting in May 2023

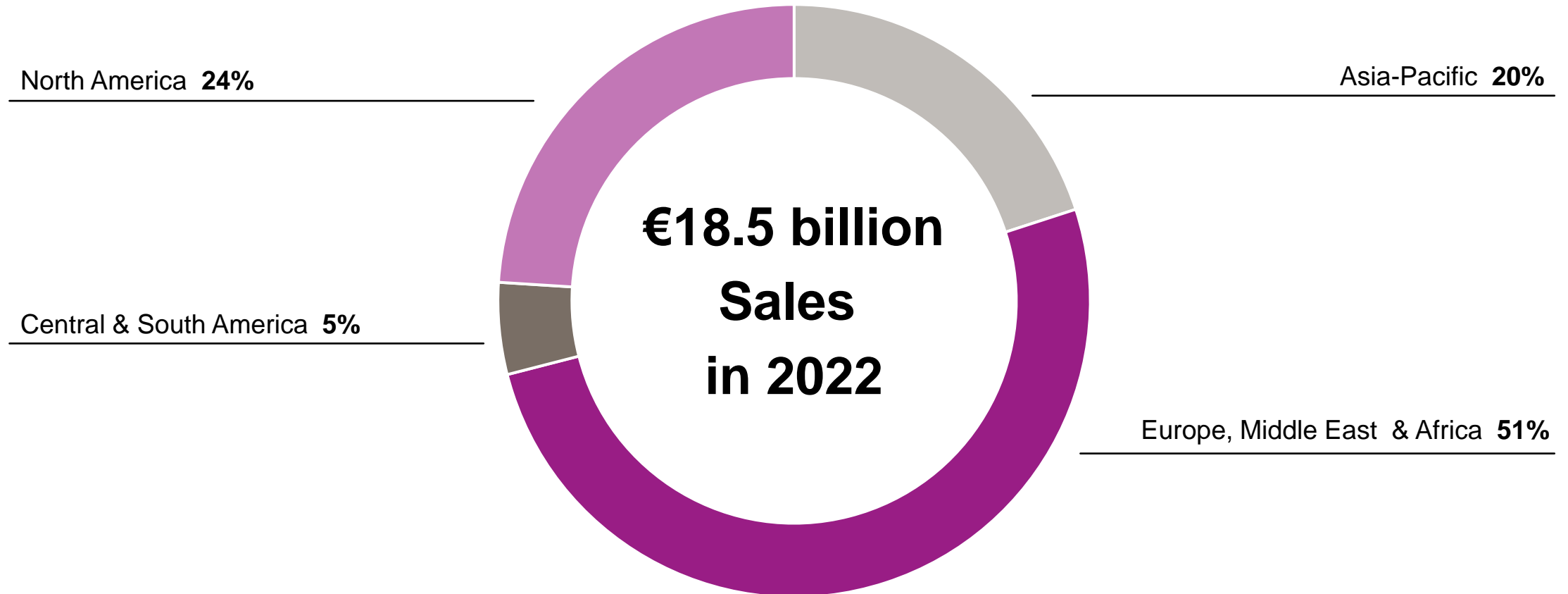
# Leading Beyond Chemistry – Growth divisions

## Ambition and promising growth drivers

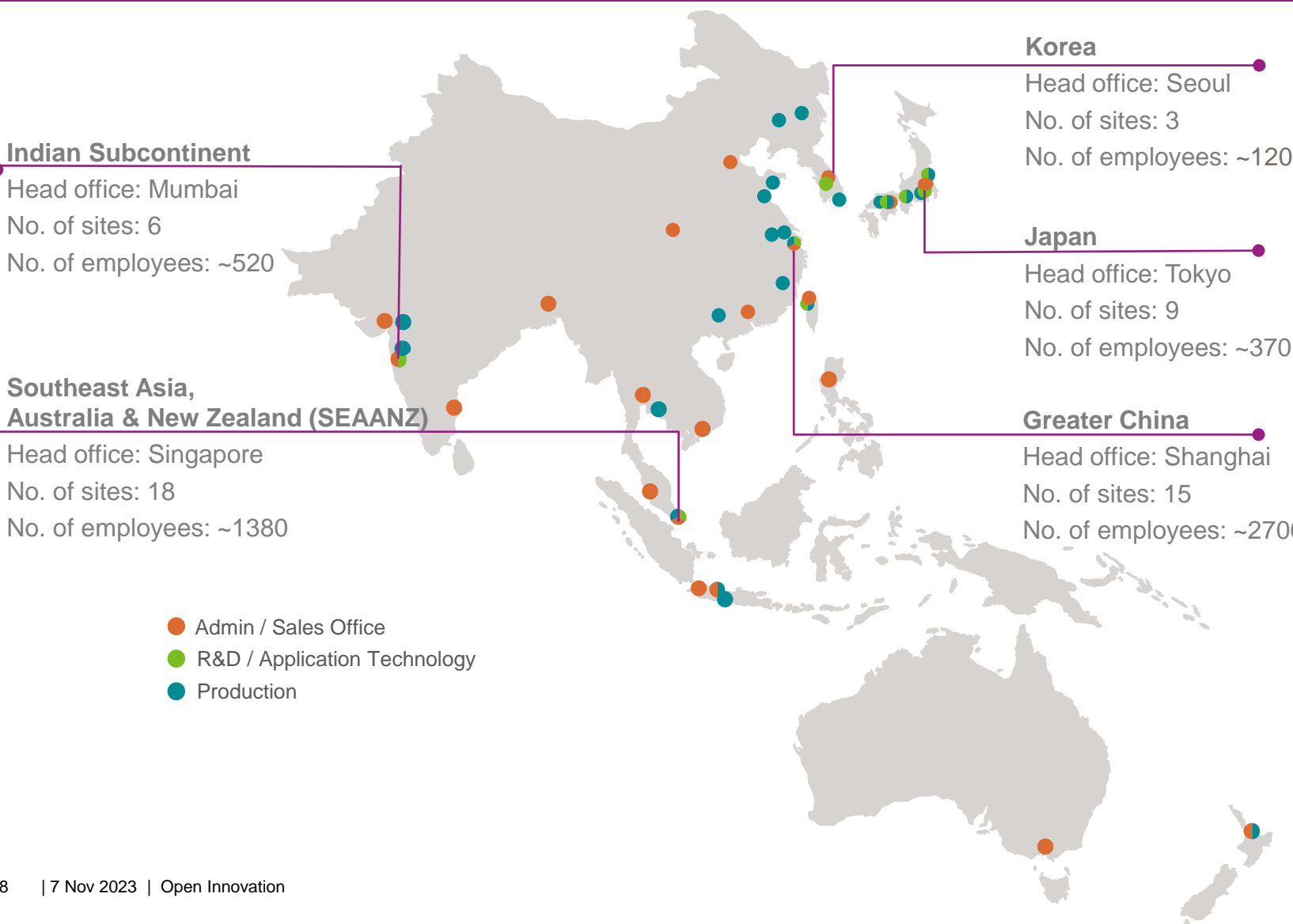
	Specialty Additives	Nutrition & Care	Smart Materials
			
Ambition	“Small amount – <b>Big effect</b> ”	“Bringing Nutrition & Care to Life – <b>for life and living</b> ”	“We find solutions for the <b>needs of today and tomorrow</b> ”
... and promising growth drivers	✓ Making the difference	✓ Active cosmetics ingredients	✓ Future Mobility
	✓ Enabling circular economy	✓ Drug delivery systems	
	✓ Digital solutions	✓ Sustainable & healthy nutrition	✓ Eco-Solutions

## Sales by region

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# Evonik operates in five country clusters across Asia Pacific



## Evonik Asia Pacific at a glance

Sales in 2022: 3,784 M€ (~20% of group sales)
~5,100 employees
51 sites, active in 24 countries
Asia Pacific management hub in Singapore



# Evonik is one of the global leaders in specialty chemicals

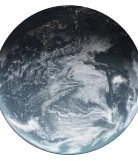
Strong presence in India with more than 500 employees



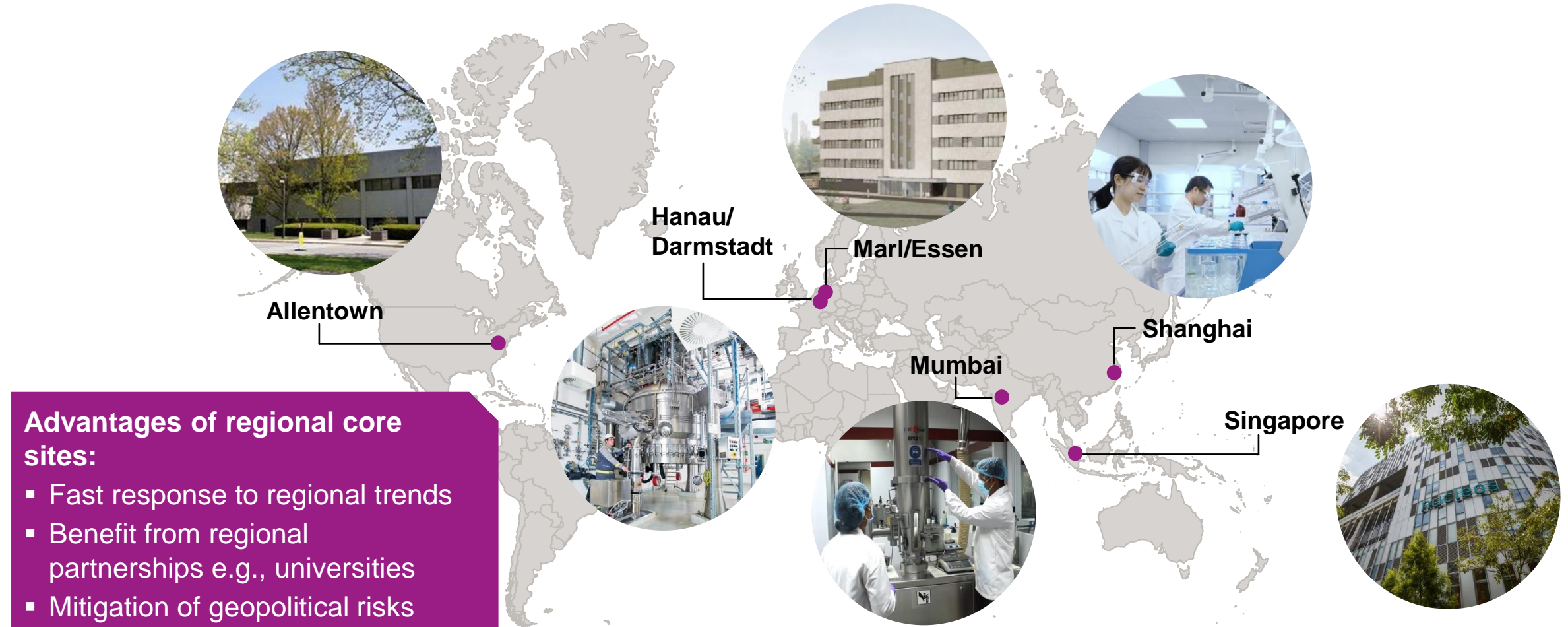
- **Evonik India Pvt. Ltd.**  
Headquarters: Mumbai
- Activities: Sales & Marketing, AT labs and Global R & D centre. Regional Development

- Evonik Industries acquired Monarch Catalyst Pvt. Ltd., Dombivli (India) in 2015.
- The company, now renamed as **Evonik Catalysts India Pvt. Ltd.** is the hub for Evonik's catalysts activities in India.

- Evonik Industries acquired Silica Business of J M Huber in 2017.
- The entity is name in India is **Evonik Specialty Silica India Pvt. Ltd.**



# Evonik RD&I core sites in the regions



## Advantages of regional core sites:

- Fast response to regional trends
- Benefit from regional partnerships e.g., universities
- Mitigation of geopolitical risks

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# What is Open Innovation?

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“In a world of widely distributed knowledge, companies cannot afford to rely entirely on their own research, ...”

Henry Chesbrough

# What is Open Innovation?

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“In a world of widely distributed knowledge, increasing global networking, rapid change and scare budgets, **Evonik** cannot afford to rely entirely on its own research.”



## Definition

Open Innovation stands for the opening of innovation processes

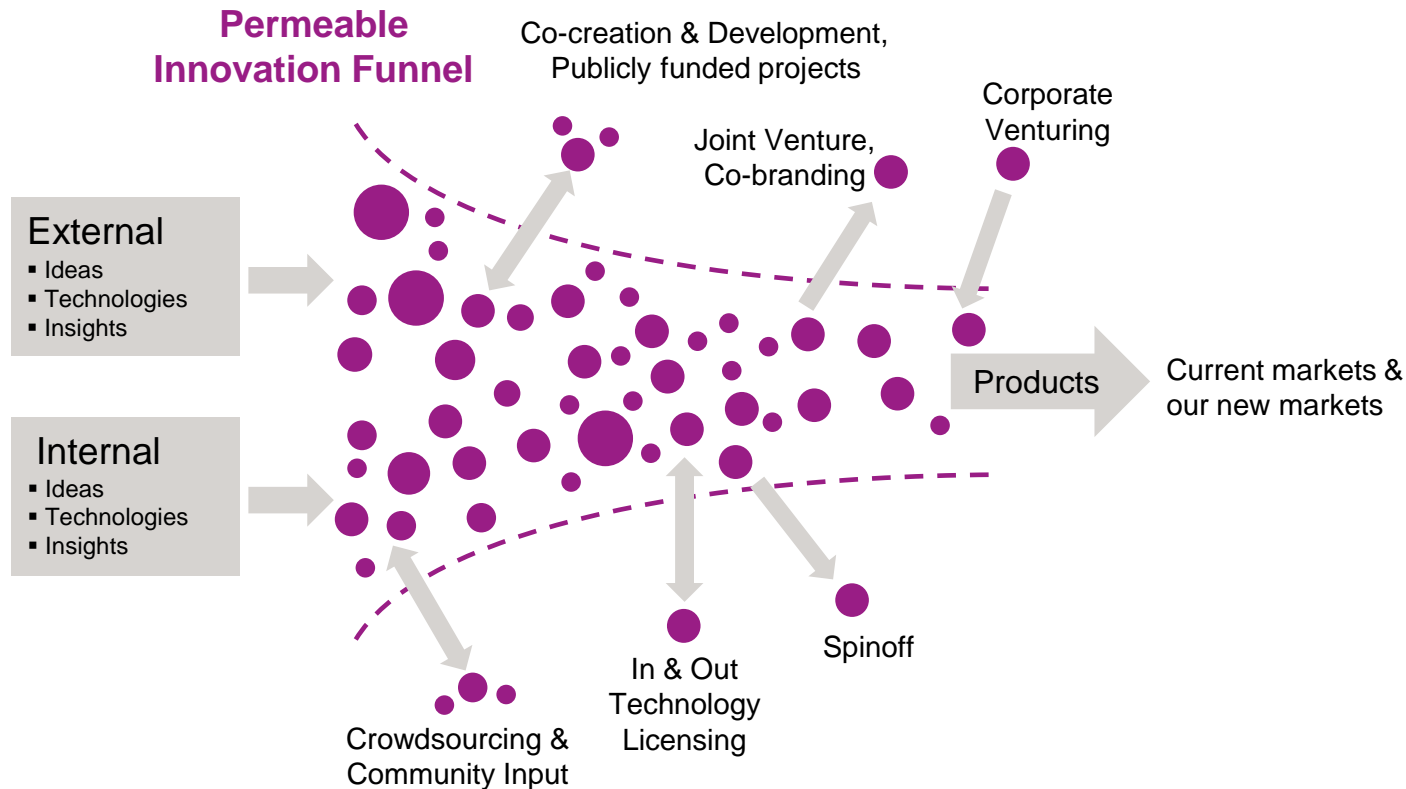
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Open Innovation means  
**opening innovation processes**  
of organizations and thus  
**making strategic use of the**  
**outside world** to increase their  
innovation potential.



# The Solution

Opening the innovation process to make strategic use of the outside world

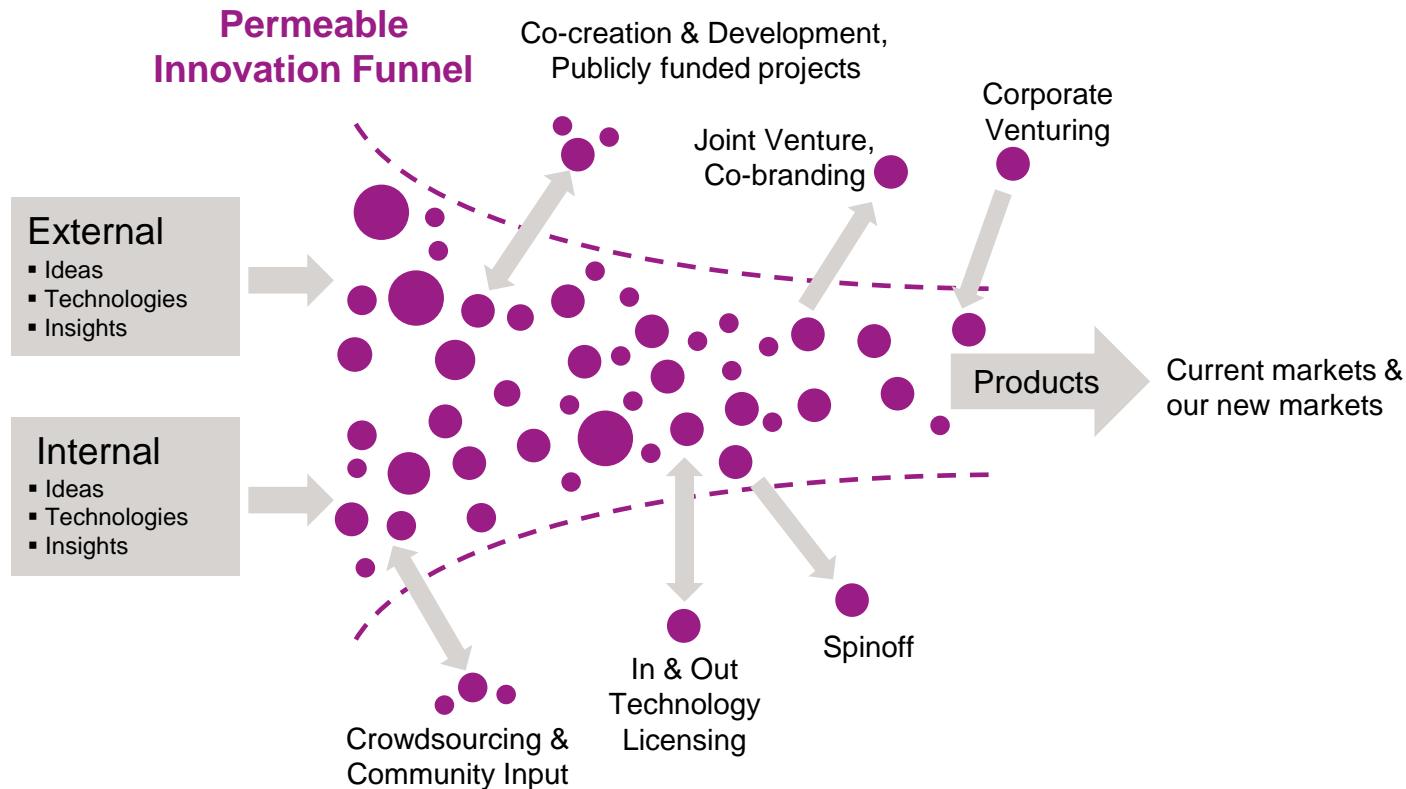


## Chances

- Reduced R&D **costs**
- Increase development **speed**
- Increased R&D **efficiency**
- **Incorporation of customers early** in the development process
- Access to **new technologies, knowhow, external talent**
- Potential for **marketing & employer branding**
- Explore **completely new products, services, business models & markets**
- Leveraging of **innovation ecosystems**

# The Solution

Opening the innovation process to make strategic use of the outside world



## Risks & Challenges

- **Revealing information** not intended for sharing
- **Lose competitive advantage** because of revealing intellectual property
- **Increased complexity** of controlling innovation and regulating how contributors affect a project
- Devising a means to **properly identify and incorporate external innovation**
- Realigning **innovation strategies** to extend beyond the firm in order **to maximize the return from external innovation**



# Agenda

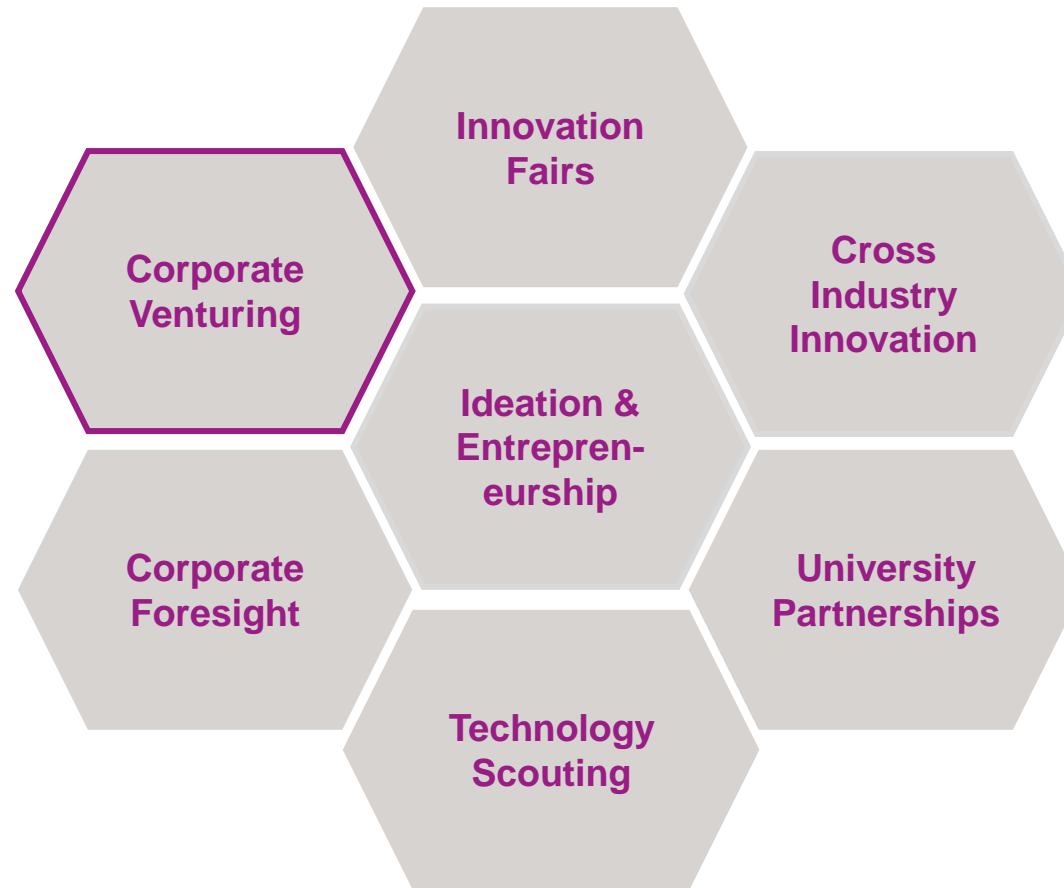
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# Open Innovation at Evonik:

Based on numerous approaches (select examples)

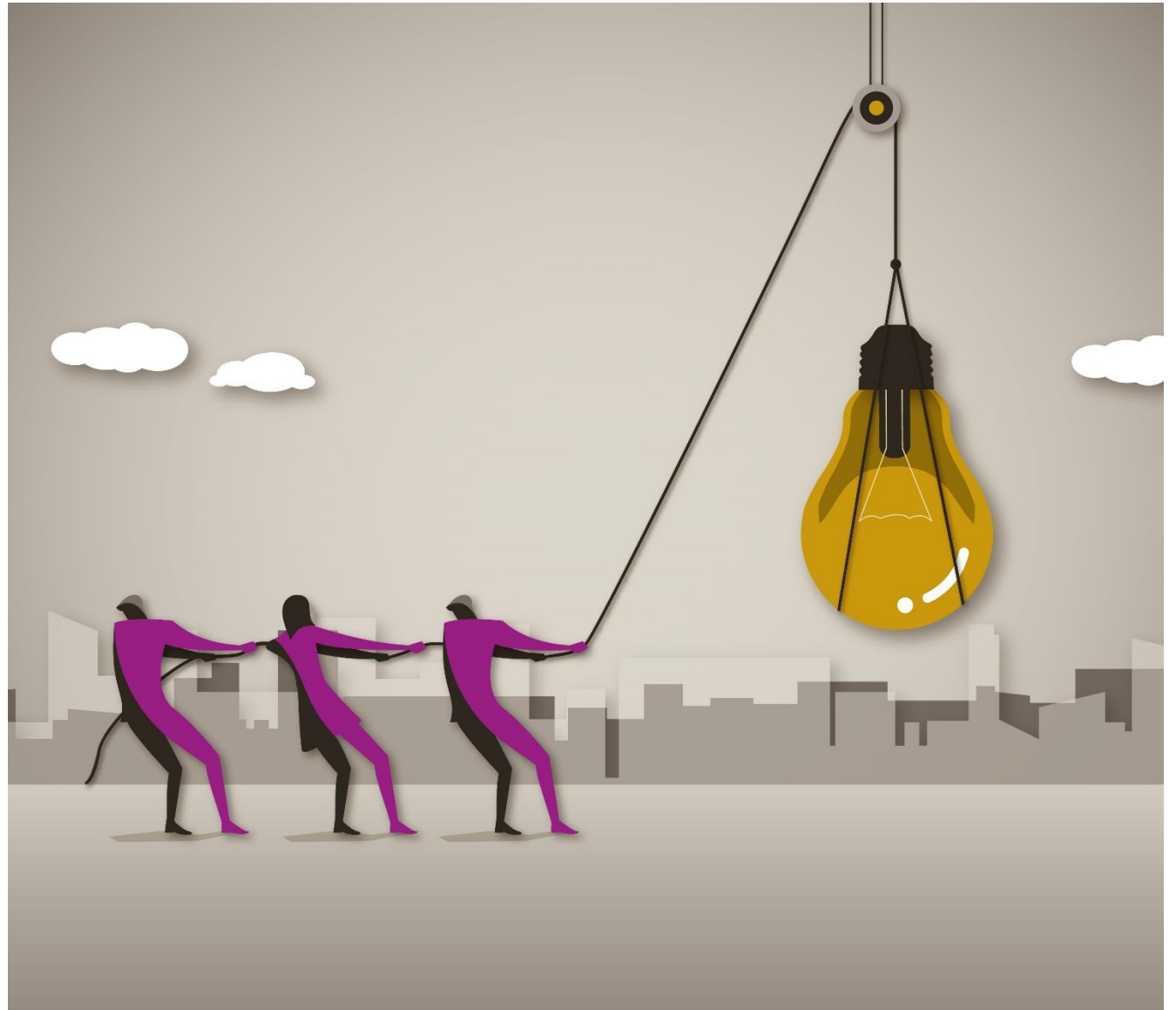
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# Evonik Venture Capital

We invest in innovative startups that have the potential to become future industry leaders.

November 2023



# Evonik Venture Capital at a glance – A strong corporate VC investor

Well-established strategic investor and renowned partner in worldwide start-up ecosystems



**€400  
million**  
designated funds

**14**  
investment  
professionals  
on three continents

**~800**  
relevant companies  
annual deal flow

**~25**  
cooperations between  
startups & Evonik  
each year

**>50 investments**  
in startups and funds since 2012

# Venture Capital activities driven by strategic goals and financial returns

Powerful partner fostering growth opportunities with entrepreneurs to expand boundaries

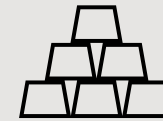
## How we invest



**From seed over to growth and later stage**  
(TRL 5 to 6)



**Initial investment up to €3 million per company**



**Total commitment up to €15 million per company**



**Focus on Europe (incl. Israel), North America & Asia**



**Minority shareholding, typically, up to 20%**



**Active partner that often serves on boards**

TRL: Technology Readiness Level

# Evonik Venture Capital putting its strategic investor advantage into action

Facilitating collaboration with Evonik's operational units, driving portfolio companies' growth

- **Strategic investor** actively collaborating with portfolio companies
- Leveraging the strengths of Evonik, **driving growth** at portfolio companies **through strategic, technical and commercial expertise and proficiency**

## Cooperation with Evonik provides:

- Technological expertise and infrastructure
- Know-how of manufacturing processes and production scale-up
- Market experience and global access through excellent, well-established business networks
- Expertise in patent strategies and on issues of intellectual property rights
- Reputation and financial strength



# Evonik Venture Capital oriented to creating strategic value add

Investment focus driven by overarching Group strategy along innovation growth fields

## Innovation Growth Fields

### Advanced Food Ingredients



### Cosmetic Solutions



### Healthcare Solutions



### Additive Manufacturing



### Membranes



### Sustainable Nutrition



### Enhancing Digital Transformation



## Digitalization

## Search fields (examples)

- Food ingredients focusing on gut health, cardiovascular, cognitive and pre-diabetes
- Actives and adjutants for personal care
- Drug delivery systems

- New material concepts for additive manufacturing
- Hollow fiber and flat sheet membrane solutions for industrial separation processes

- Precision livestock farming
- Novel feed additives with demonstrable performance
- Molecular diagnostics
- Digital animal farming
- Sustainable Healthy Nutrition

- Digital services & business models
- Digital Supply Chain
- Digital equipment for employees
- Data integration along the whole Asset-Lifecycle

# Evonik Sustainability Tech Fund

Key pillar of Evonik's Sustainability Strategy

Additional  
designated funds of  
**€150 m**

Start in  
**May 2022**

Investments made with the primary objective to achieve CO<sub>2</sub> mitigation by reducing and removing emissions and foster carbon sequestrations



**Drive Circularity**



**Feedstock Switch  
and Substitution**



**Future Mobility**



**Hydrogen Economy**



**Renewable Carbon**



**Clean Energy  
Production**



# Global portfolio of technology leaders

35 direct investments provide preferential access to start-up's resources and technology



## North America



### Exits:



## Europe & Israel



### Exits:



## Asia Pacific



# Close cooperation between Evonik Divisions and Start-up companies

SELECTED EXAMPLES

Direct investments provide preferential access to start-up's resources and technology



## Nutrition and Care



USA

Controlled release drug delivery for post-surgery pain management



Germany

Nature Identical Biomaterials



## Smart Materials



Netherlands

Thermoplastic composite pipe for renewable energy



China

Market leader of resin-based 3D industrial printers in Asia



## Specialty Additives



China

Superior battery grade graphene materials



UK

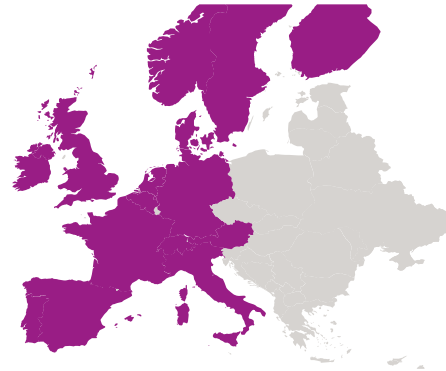
Simplifies processing and recycling of plastics

# EVC fund investments are the cornerstone for global innovation coverage

19 fund investments enable overview & access to emerging technologies in all relevant regions



North America



Europe & Israel



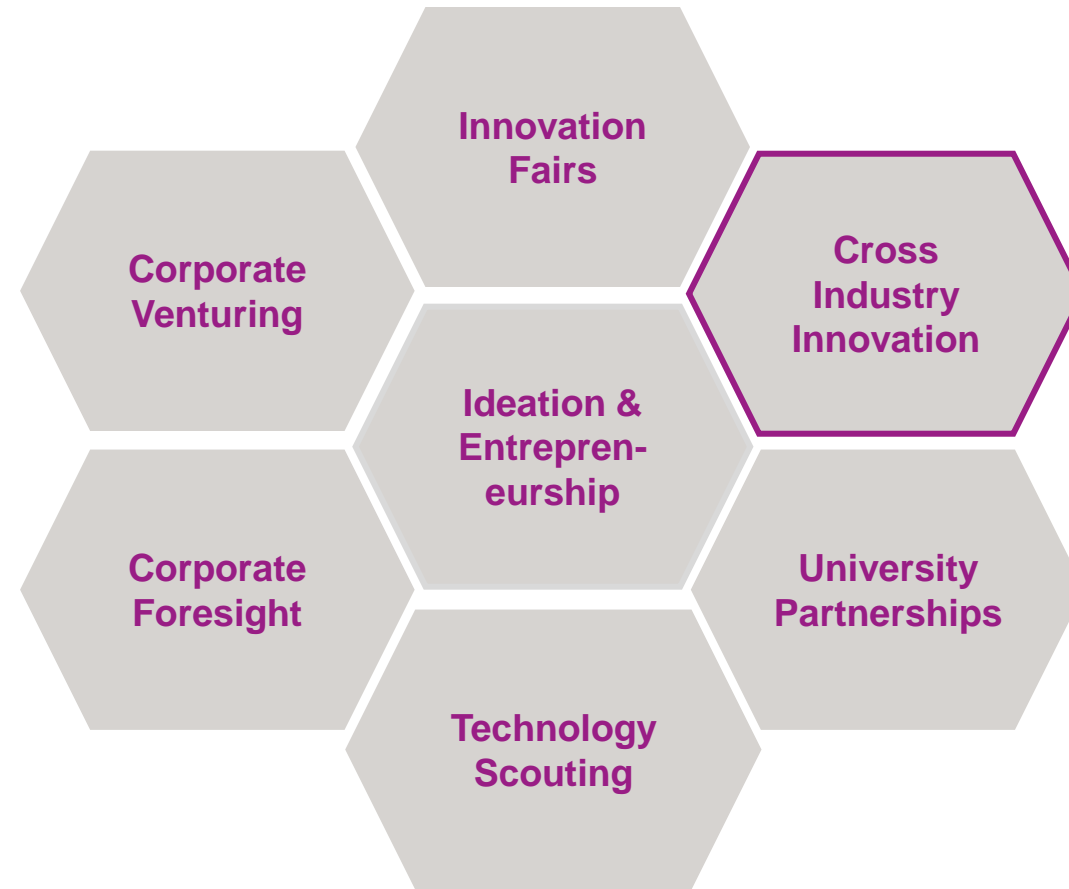
Asia Pacific



# Open Innovation at Evonik:

Based on numerous approaches (select examples)

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# "Cross-Industry" co-innovation connects the unique strengths & capabilities of organizations in different industries to create innovative solutions

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The major part of all innovations are based on recombination of existing knowledge (Schumpeter, 1939)

- Same industry & value chain: Many fields for recombining knowledge are explored
- Different industries & value chains: Many non-explored fields exist

## Cross-Industry co-innovation:

- Combination of knowledge & demands from different industries
- Potentials for transformational innovation by first-time interactions of technologies
- Insights on business models in other industries



# Examples on cross-industry innovation partnerships



Developing and producing  
Google Glass

Reference: [https://www.luxottica.com/sites/luxottica.com/files/takeover/attachments/2014\\_luxottica\\_and\\_google\\_announce\\_strategic\\_partnership\\_march\\_24\\_201](https://www.luxottica.com/sites/luxottica.com/files/takeover/attachments/2014_luxottica_and_google_announce_strategic_partnership_march_24_201)



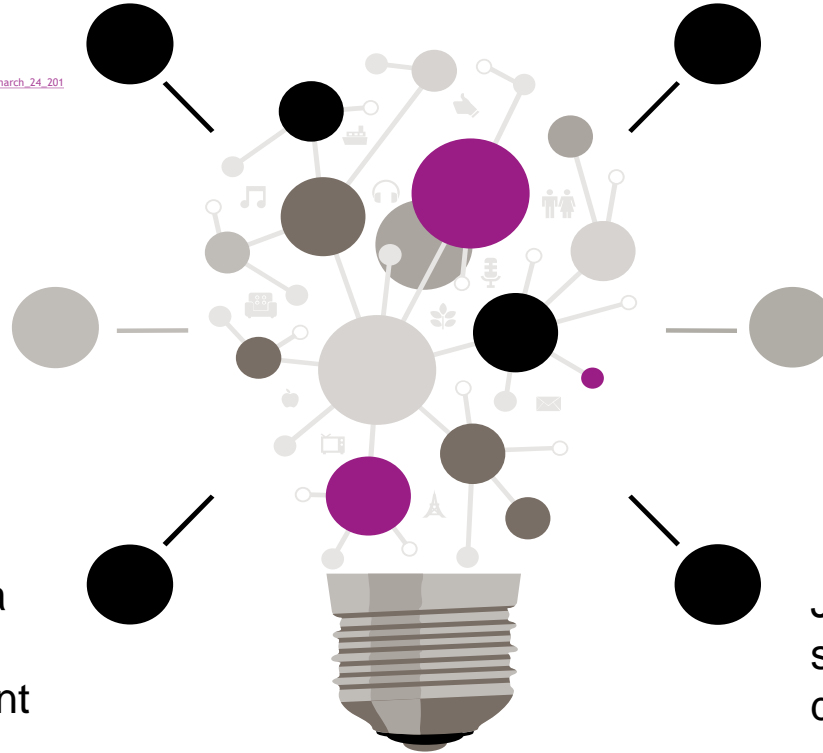
Co-creating "Nike+iPod" to  
track and analyze a runner's  
performance

Reference: <https://www.marketingprofs.com/6/kraft1.asp>



Developing TradeLens, a  
blockchain platform for  
supply chain management

Reference: [https://www.maersk.com/-/media\\_sc9/maersk/local-information/files/west-central-asia/india/tradelens-solution-brief.pdf](https://www.maersk.com/-/media_sc9/maersk/local-information/files/west-central-asia/india/tradelens-solution-brief.pdf)



Enabling circularity in  
polyurethane foam  
production



Reference: <https://corporate.evonik.com/en/evonik-cooperates-with-remondis-on-sustainable-polyurethane-recycling-217952.html>

Providing contactless  
payments via smart  
watches & fitness trackers



Reference: <https://www.mastercard.com.au/en-au/personal/ways-to-pay/digital-wallets/fitbit-pay.html>

Joint research on applying  
sound analytics in  
diagnosis of lung conditions



Reference: <https://www.fiercehealthcare.com/tech/highmark-health-bosch-collaboration-ai-identifying-lung-conditions-children>

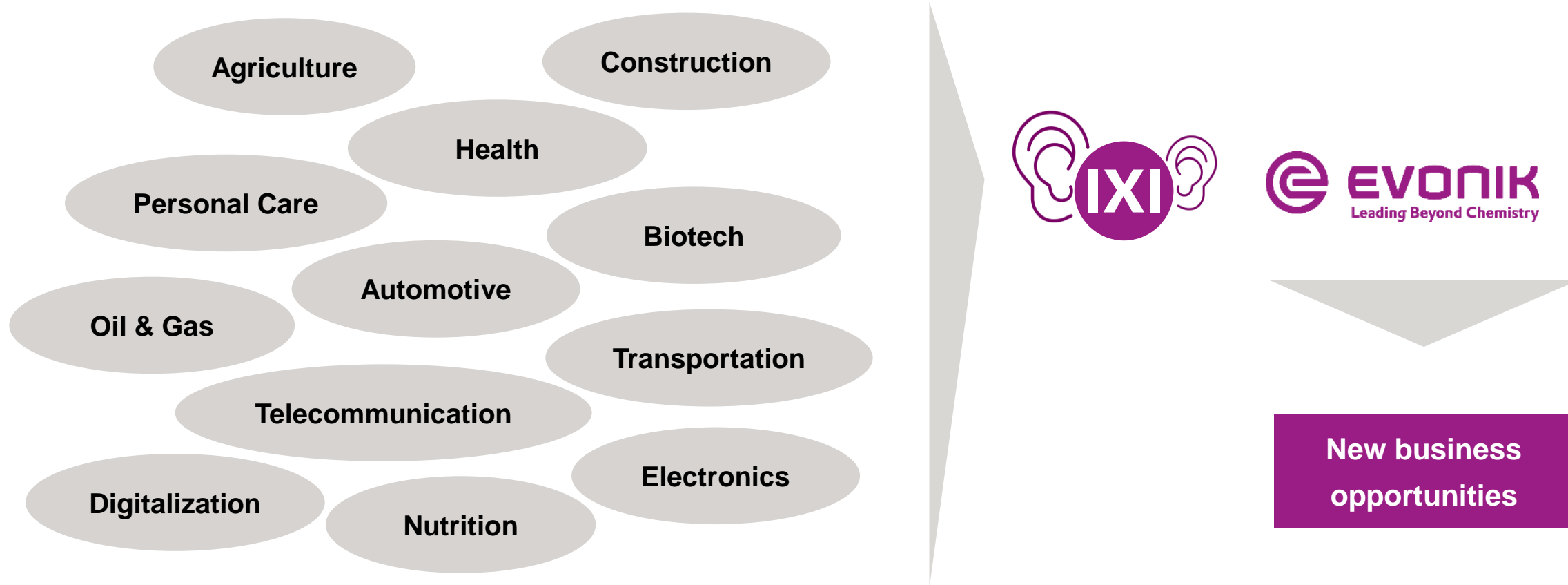
# The Evonik approach: Industry Cross Innovation (IXI)

## Values

- Identification of unsolved problems at players along the value chain, across industries and amongst different sectors
- Co-innovation projects with *unusual* suspects, creating potential new businesses for Evonik
- Opportunities for further collaborations with global players, focused on sustainability demands



# IXI listens to players along the value chains, across industries and amongst different sectors and paves the way towards new business opportunities

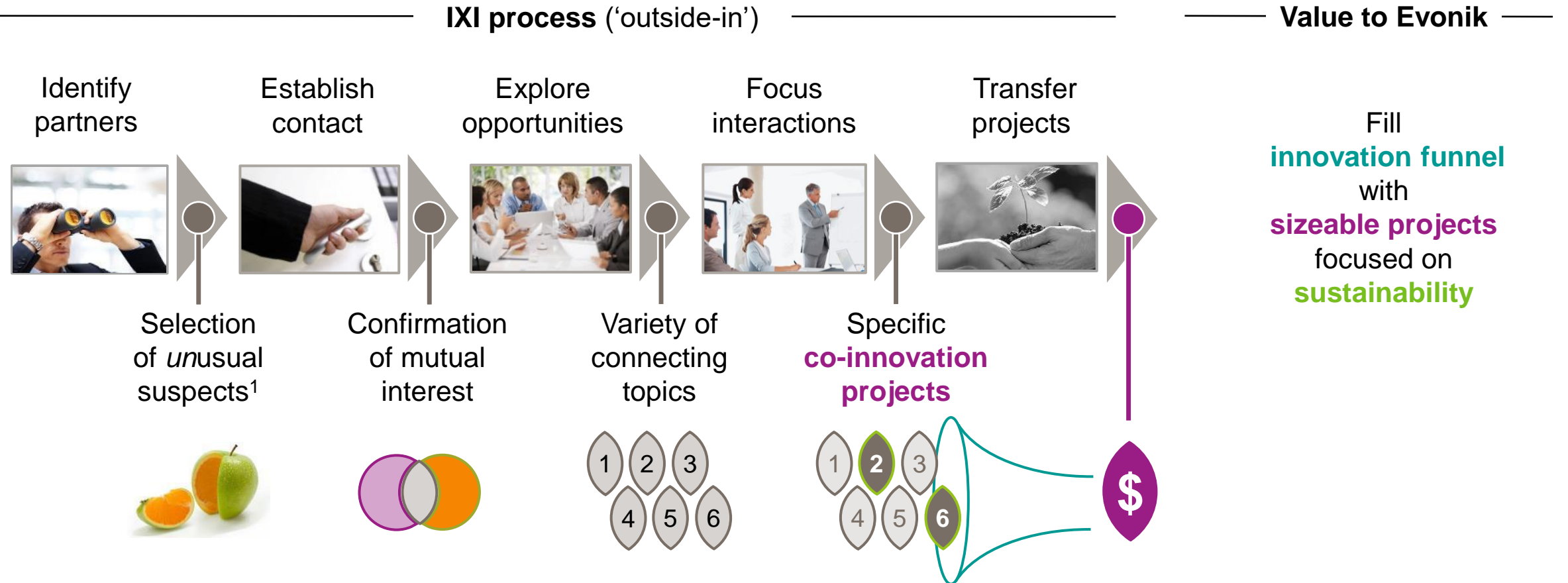


Examples shown are selected players, evaluated in 2021 - 2023



# IXI fills Evonik's innovation funnel with co-innovation projects

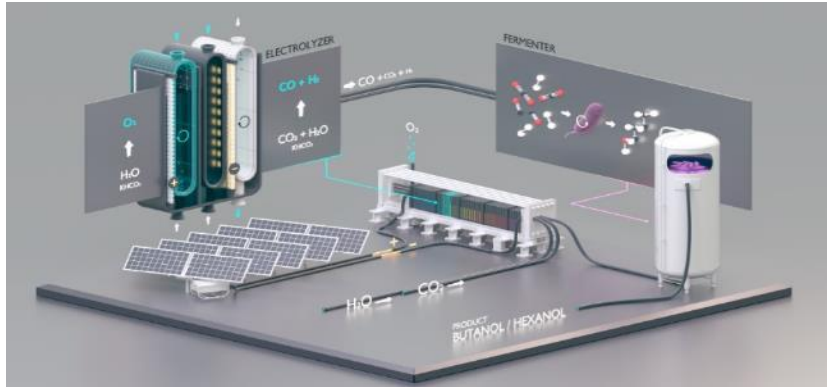
Uses an optimized 'outside-in' process



<sup>1</sup> For example from different industrial value chains, different sectors (new innovation networks via GIZ, UNIDO) or players in less-explored regions (Vietnam, Ecuador).

# IXI initiated a variety of different innovation partnerships (exemplary projects)

## CO<sub>2</sub> utilization



## High performance ceramics

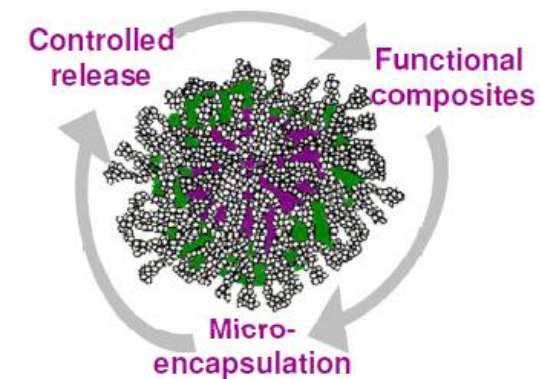


IXI

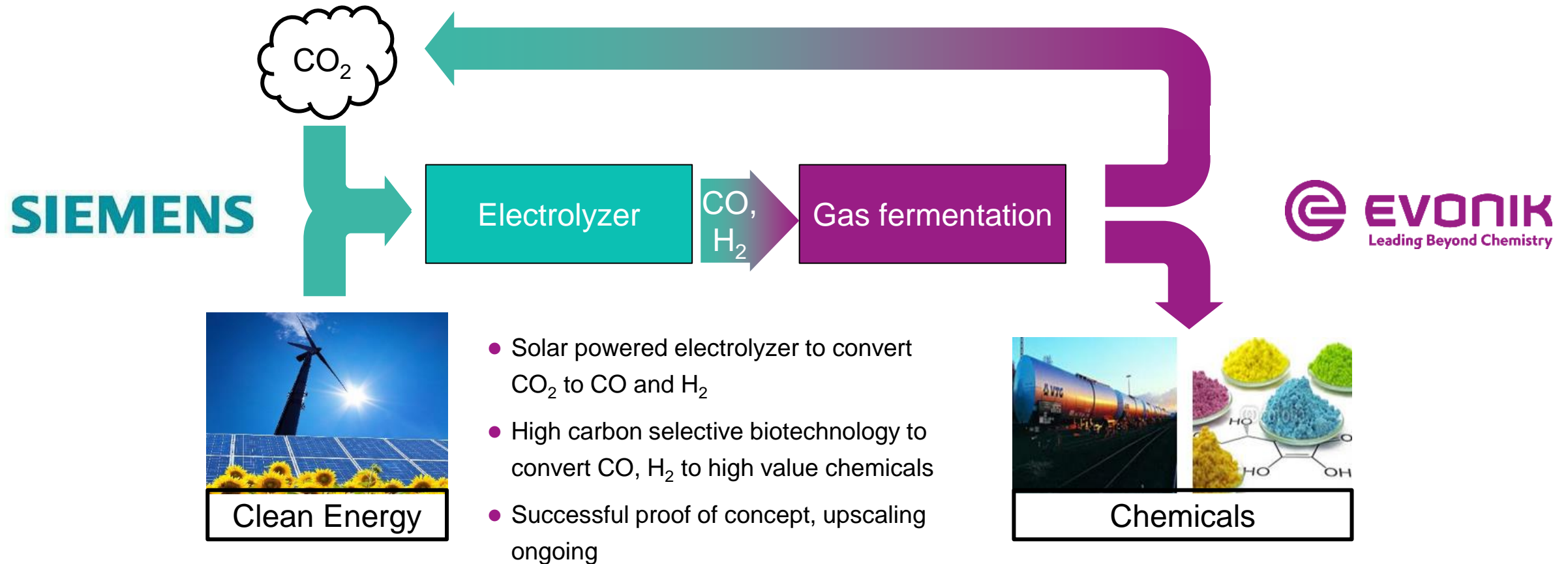
## Renewable fuels



## Controlled additive release via encapsulation



# Evonik & Siemens: Co-Innovation on “artificial photosynthesis”



<https://www.youtube.com/watch?v=VK-dULEK-rc>

*Nature Catalysis* 1, 32–39 (2018)

# The IXI methodology can lead to different strategic options for collaboration

## Examples

Customer <> supplier

Research contracts

Co-Innovation / JDA

Licensing

Joint market Routes

Branding

Investment

Joint Venture

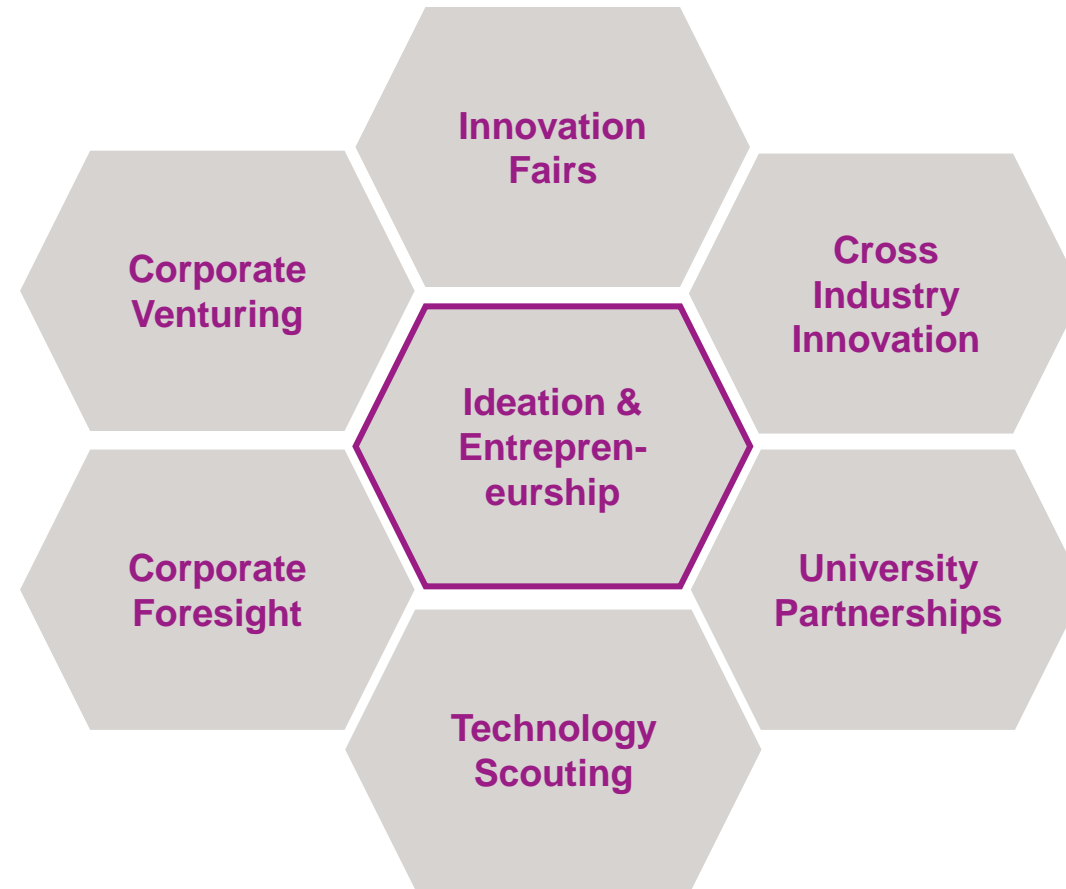
Acquisition








# Open Innovation at Evonik:

Based on numerous approaches (select examples)

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# Ideation & Entrepreneurship

		Client	Crowd	Community Size	Deliverables	
Internal		Global Ideation Jam	CIO	all Evonik Employees	4.500	ideas, training, network, branding
		Ideation Workshops	BL	selected employees	<100	ideas
		Seek & Solve	all Evonik Employees	all Evonik Employees	5.500	network
External		Challenges	BL	Academia, startups, supplier, ...	open	ideas, network, branding
		Lead User	BL	Target market users	<50	ideas, network



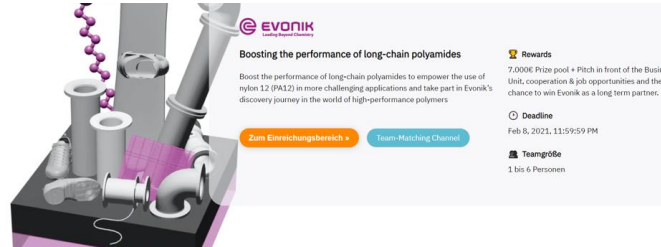
# Open Innovation Formats

Open Innovation challenges have a long history at Evonik with different formats



## Evonik Call for Research Proposal

Challenges targeting professors with BL topic, invited participation (2013-2018)



## Ekipa Challenge

Challenge students with BL topic, open participation (2019-2021)



## Evonik Open Innovation Challenges

Public challenge about BL topic, open participation (since 2022)



## Chemtrepreneur Award

1 day event with University of Münster on Creavis topics, selected students



## Student Entrepreneurship Sprint

Master course at TUM, 6 BL challenges, 30 students



## Young Polymer Scientist Forum

2 days, Evonik polymer topics, selected students

# Evonik Call for Research Proposals (ECRP) 2016- India region

## Topic

Novel approach to the synthesis of methionine

## Participants

Universities/research institutes from India

## Methodology

- List of participants(~70)
- RFP and other docs. communicated by email
- Telephonic contact and follow- up by mail/phone
- Concept popularization by participation in a seminar

## Timeline

Start: 7th January 2016

Deadline: 30th April 2016, Extended: 13th May 2016

## Results

Overall, the contest generated 27 proposals. Top 3 ideas received Evonik prizes



## Prizes

- 1<sup>st</sup> ranked project proposal: 10.000 €
- 2<sup>nd</sup> ranked project proposal: 5.000 €
- 3<sup>rd</sup> ranked project proposal: 2.500 €



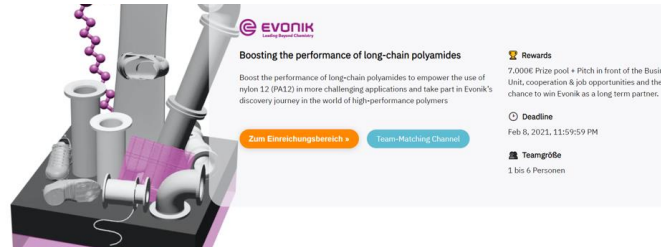
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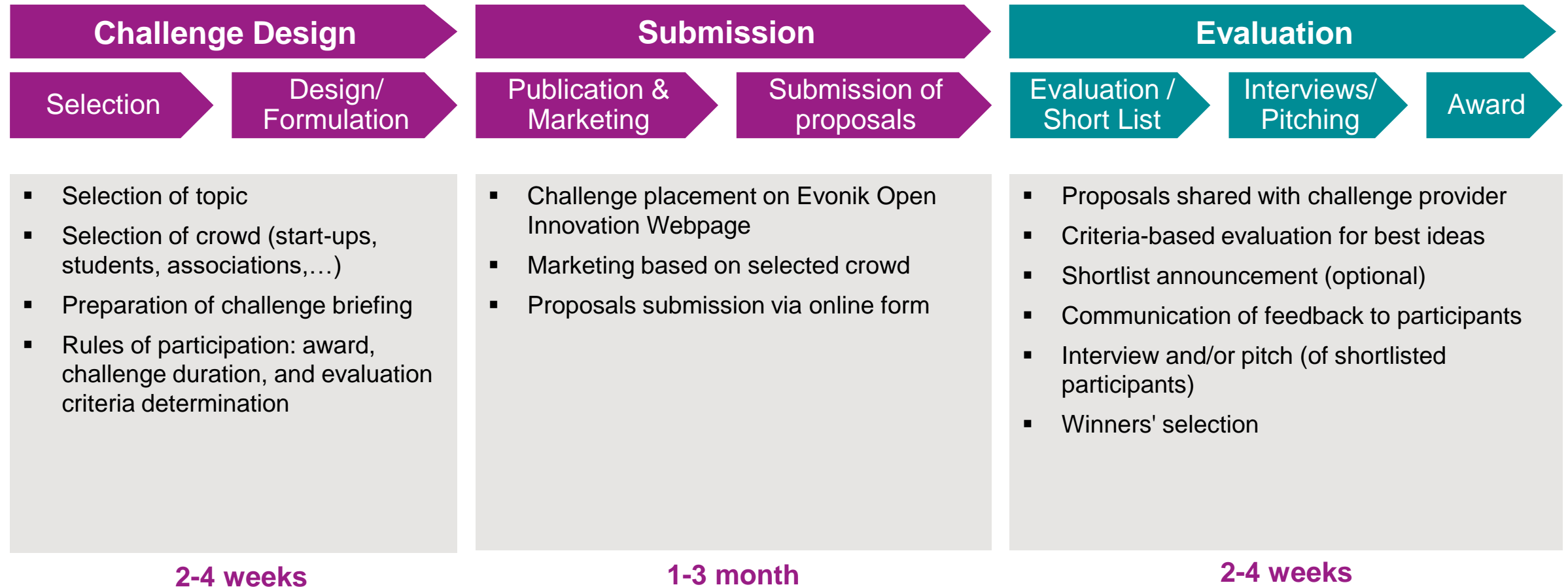


## Young Polymer Scientist Forum

2 days, Evonik polymer topics, selected students

# Open Innovation Challenge

Together with our internal partners, we create an individual challenge concept

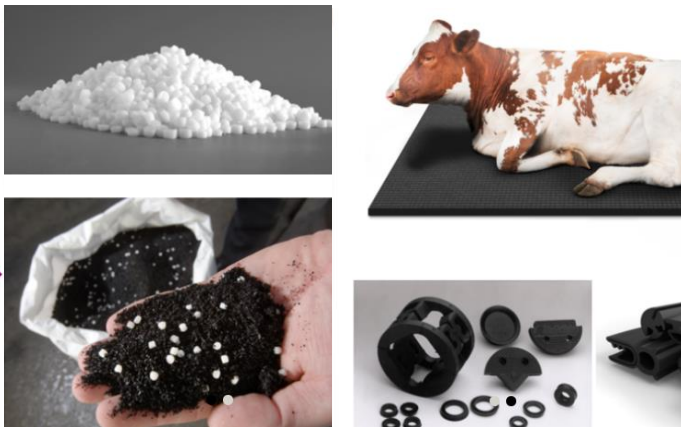


# Open Innovation Challenge

## New applications wanted for VESTENAMER®

### OPEN INNOVATION CHALLENGE:

Application innovation for VESTENAMER®



With this competition, Evonik is looking for new innovative ideas to expand the field of application of VESTENAMER® and to explore new markets with this product.

**Which new applications could be addressed with VESTENAMER®?**

**In which applications is good compatibility with rubber or rubber-like materials required?**

**5000 EUR Reward**

**CHALLENGE CLOSED ON JUNE 30th, 2022**



### Challenge Outcome

- 9 relevant proposals out of 8 different countries
- Participants were professors and students



### Rewarded Ideas

- |          |   |
|----------|---|
| 2500 EUR | <b>Reactive diluent for UV curable powder coating</b> , Dr. Aarti P. More, Institute of Chemical Technology, Mumbai, India                                |
| 1500 EUR | <b>Encapsulation for epoxy curing agents</b> , Volodymyr Dudko, University of Bayreuth, Germany   |
| 1000 EUR | <b>Novel functional derivatives for polymers and bio-renewable co-polymers</b> , Prof. Harald Gröger and Adil Allahverdiyev, Bielefeld University, German |



# OPEN INNOVATION CHALLENGE

Discover new  
applications for liquid  
polybutadienes and  
shape tomorrow's  
mobility!

POLYVEST®



Submit your innovative ideas for a chance to win  
€5000 and collaborate with our experts!  
Open until 30.11.2023



# OPEN INNOVATION CHALLENGE

Within our defossilisation strategy, Evonik is looking for sustainable production reducing the CO<sub>2</sub> formation globally. We are seeking for an alternative usage of an effluent containing 17 mass% Acrylic Acid, 1 mass% Acetic Acid and 3 mass% Formaldehyde.



Submit your innovative ideas for a chance to win €5000 and collaborate with us to reach sustainability!

Open until 15.02.2024







**EVONIK**

**Leading Beyond Chemistry**