Verbund X

# VERBUND X Accelerator 2023 Edition





# Shape the future of energy and infrastructure with us

Innovation is a joint effort – together with corporate partners, we build **Europe's leading Energy and** Infrastructure platform.

VXA engages with the worlds best startups to foster the development of **innovative technologies and new business models** in the energy and infrastructure industry.



### Your VXA Project Team



Franz Zöchbauer Managing Director | VERBUND Ventures

**Strategic Sparring** 

Anton Schilling

Managing Partner |

Pioneers

**Strategic Sparring** 



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Program Management



Christina Senft Senior Innovation Consultant | Pioneers

Program Management

### VXA Success Story -Recap 2020

- ✓ 6 innovative search fields
- ✓ Over 300 startup applications
- $\checkmark$  43 countries and 6 continents
- +100 participants at the Innovation Camp
- $\checkmark$  6 projects in the proof-of-concept phase

#### CHANNEL

#### GESTARTET

VERBUND X: Neuer Accelerator sucht Energie- und Infrastruktur-Startups

INVESTORS

29. Juni 2020, 11:18

die Redaktion am 29.06.2020



#### VERBUND X Accelerator: Programm für Energie und kritische Infrastruktur



MORE -

Österreichs führende Unternehmen starten mit internationalen Partnern ein gemeinsames Programm für innovative Lösungen im Energie- und Infrastruktur Bereich

#### OMV beteiligt sich an "VERBUND X Accelerator. The Energy & Infrastructure Innovation Platform"



### VXA Success Story -**Recap 2021**

- $\checkmark$  10 innovative search fields
- ✓ **14 corporate partners** (use-case & community)
- ✓ Over **400** startup applications
- ✓ From **46 countries**
- ✓ **13 promising projects** in the proof-of-concept phase
- ✓ 9 initiatives successfully qualified for long term collaboration

Speedinvest

die Redaktion 05.11.2021

#### VERBUND X Accelerator: Diese 13 Startups kommen in die PoC-Phase

VERBUND und seine Corporate-Partner im VERBUND X Accelerator-Programm haben gewählt: Diese Projekte gehen in die nächste Phase und werden getestet.

Artikel Link kopieren

#### VERBUND X Accelerator: Programm für Energie und kritische Infrastruktur

Österreichs führende Unternehmen starten mit internationalen Partnern ein gemeinsames Programm für innovative Lösungen im Energie- und Infrastruktur Bereich

Wien (OTS) - VERBUND, Bundesimmobiliengesellschaft, OMV, Post und Austrian Power Grid setzen auf Kooperation, um innovative Start Ups ins Unternehmen zu holen. Mit dem Start des "VERBUND X Accelerator" Programms sind Start Ups aufgerufen, Lösungen für die Themenbereiche Energie und kritische Infrastruktur einzureichen.

#### VERBUND X Accelerator sucht zum zweiten Mal Energie- und Infrastruktur-Startups

voestalpine

ONE STEP AHEAD.

Shaping the future of energy and infrastructure What a Demo Day 🏇 We want to congratulate all our amazing start-ups and artners on their successful collaboration! Well earned. 🟆 We are amazed by the speed and passion our project teams showed in accelerating their pilot projects And the impressive results that will shape the future of energy and infrastructure. Today, we once more saw that #innovation and #cocreation go hand in hand.

Stay tuned for more details in the upcoming Edward Feltmann ist Programm-Manager be

> We are proud to see that the second batch of VERBUND X Accelerator reached it successful peak And are even more excited for the next round starting already this summer!

#### verbundy #accelerator #cocreation

MV Alperia Group ASFINAG BIG Bundesim ine Steel Division VERBUND ACCURE Battery Intelligence Dream aton eFriends Energy gnista.io LuvSide GmbH MOWEA Predi ment b.v. IBD Group Österreichische Post AG Raiffeisen Bank Interna AG Mainova AG Speedinvest Google Green Tech Cluster ÖBAG AIT Austrian



🕶 VERBUND 💓 🖪 💿 🗈 · 09. Juli 2021, 11:22



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MR Raiffeisen Bank

International Member of RBI Group

GREEN

TECH





Seite 5

### VXA Success Story -Recap 2022

- ✓ 7 innovative search fields
- ✓ 9 corporate partners (use-case & community)
- ✓ Over 190 startup applications
- ✓ From **30 countries**
- 7 promising projects in the proof-of-concept phase
- 7 initiatives successfully qualified for long term collaboration

die Redaktion 13 April 2023

#### VERBUND X: "Eine Plattform, wo Leute zusammen anpacken, um Lösungen zu finden"

Die Proof of Concept-Phase des dritten Durchgangs des VERBUND X Accelerator-Programms ist abgeschlossen. Vorbei sind die entstandenen Kooperationsprojekte aber keineswegs.

#### VERBUND X Accelerator: Diese 7 Energie-Projekte punkteten beim Demo Day 2023

•••• VERBUND 💓 🖪 💿 🗈 • 17. April 2023, 07:30



VERBUND AG 20.969 Follower:innen 2 Wochen + Bearbeitet + (§

Suchfelder, Pilotprojekte, und refolgreiche Kooperationen sparer. um dritte Durchgang des VERBUND X Accelerators erreichte das Finale! Die Ergebnisse aller Pilotprojekte und ein Ausblick auf längerfristige Kooperationen wurden hier präsentiert.

Geplant sind weitere Kooperationen mit SmartHelio: Predictive Solar Software LUN Energy und KRAFTBLOCK.

"Wir bauen eine Innovationsplattform nicht nur für VERBUND, sondern für das ganze Land auf. Eine Plattform, wo Leute zusammen anpacken, um an Lösungen für die Energiewende zu arbeiten", betont Achim Kaspar (COO VERBUND).

#### <u>Mattheway Mattheway Ma</u>

#verbundx #accelerator #demoday #innovation

Technische Universität Wien Compact Membrane Systems Inc Torben Andreas Bonde Bamomas OMV Österreichische Post AG RHI Magnesita voestalpine Steel Division Alperia Group Speedinvest ÖBAG AIT Austrian Institute of Technology GmbH BIG Bundesimmobiliengesellschaft m.b.H.



+ Folgen •••

#Startschuss für eine neue Runde VERBUND X Accelerator. Das Ziel: Technologien und Lösungen für eine nachhaltigere Zukunft entwickeln. Führende Unternehmen aus der Energie-, Produktions- und L ... mehr anzeigen

VERBUND AG 20.969 Follower:inner 10 Monate • 🔇

For us, innovation and co-creation are the most important instruments to make a lasting, positive impact on our future. That's why we are excited that our platform continues to bring together some of Europe's ... mehr anzeigen

Übersetzung anzeigen







BIG



**ÜBAG** 



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### What's New - VXA 2023/24



**Two separate batches** allow for a **more flexible and targeted** approach, while continuous exchange through regular partner events will ensure networking and learning



Strong focus on **co-creation between use case partners** to **leverage synergies** and foster cross-corporate collaboration



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**Geographical expansion** to other areas (i.e. Spain and Germany) to develop into largest European co-creation platform in the area of energy

**Integration of CVC stream** into existing program to exploit

synergies in scouting and acceleration



Creation and involvement of **VXA alumni community** to benefit from mentoring and networking with senior management and innovation sponsors



# Well-structured strategic scouting process and assessment based on predetermined scouting criteria will lead to fast and efficient results.



### Overview Timeline - VXA 2023/24



## Roadmap – Batch 4 VXA 2023

		2	023		2024				
Q2	Q3			Q4	Q1				
Engagement phase	Scouting	Selection	Innovation Camp	tion Camp Acceleration					
<ul> <li>Engagement and onboarding of use case partners</li> <li>Co-creation workshops to define and select high potential (common) search fields</li> <li>Kick-off batch 1: July 11<sup>th</sup>, 2023</li> </ul>	Identifying and addressing <b>top</b> global startups Community outreach Constant exchange with the use case steering units d of scouting: ptember 1 <sup>st</sup> , 2023	<ul> <li>Facilitated selection process during the selection process</li> <li>Selection workshop to select (max.) top 5 startups from shortlist</li> <li>Remote startup pitches and final selection</li> <li>Alignment calls for teams</li> <li>Preselection meetings: September 4<sup>th</sup> – 8<sup>th</sup>, 2023</li> <li>Remote pitches: September 11<sup>th</sup> – 15<sup>th</sup>, 2023</li> </ul>	<ul> <li>2-day Innovation Camp during Energy Conference in Fuschl, Salzburg</li> <li>Pitches and networking</li> <li>Constant exchange with the use case steering units</li> <li>Innovation Camp: 27<sup>th</sup> – 29<sup>th</sup> of September 2023</li> </ul>	<ul> <li>Support in the legal coordination</li> <li>Setting up and conducting individual proof-of-concept rot the specific project needs for each team</li> <li>Coaches for on-going support and pace-making for your</li> <li>Facilitated and structured decision-making process for each team</li> <li>Community Demo Day</li> <li>Workshop 1: November 9<sup>th</sup>, 2023</li> <li>Workshop 2: December 5<sup>th</sup>, 2023</li> <li>Demo Day: January 17<sup>th</sup>, 2024</li> </ul>	eadmaps based on team each use case VXA Summit Recap batches 1 & 2 May 2024				
Onboarding to Sh promising search fields f	hortlist of top startups for each search field	Selection of best fitting startups	360° view on use cases and roadmap for acceleration phase	Proof-of-concept and pilot projects for each use case					
Partner Engagement (ongoing communication, key events, etc.)									

### Partner Overview - VXA 2023/24





### **Overview – Batch 4 Innovation Camp Outcome**



#### **Innovation Camp Overview**





#### Next Steps – Acceleration Phase



Carry out pilot projects together with the startups and use case partners, validate the concept and be able to achieve a clear go / no-go decision for future collaboration







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### Appendix

# Roadmap – Batch 5 VXA 2023

		2023		2024					
Q3	Q4			Q1	Q2	Q2			
Engagement phase	Scouting	Selection	Innovation Camp		Acceleration				
<ul> <li>Engagement and onboarding of use case partners</li> <li>Co-creation workshops to define and select high potential (common) search fields</li> <li>Kick-off batch 5: October 5<sup>th</sup> 4-6pm @HX space</li> </ul>	<ul> <li>Identifying and addressing top global startups</li> <li>Community outreach</li> <li>Constant exchange with the use case steering units</li> <li>End of scouting: November 17<sup>th</sup>, 2023</li> </ul>	<ul> <li>Facilitated selection process during the selection process</li> <li>Selection workshop to select (max.) top 5 startups from shortlist</li> <li>Remote startup pitches and final selection</li> <li>Alignment calls for teams</li> <li>Preselection meetings: Nov 27<sup>th</sup> – Dec 1<sup>st</sup>, 2023</li> <li>Remote pitches: December 11<sup>th</sup> – 15<sup>th</sup>, 2023</li> </ul>	<ul> <li>2-day Innovation Camp</li> <li>Pitches and networking</li> <li>Constant exchange with the use case steering units</li> <li>Innovation Camp: 15<sup>th</sup> – 17<sup>th</sup> of January 2024</li> </ul>	<ul> <li>Support in the legal code</li> <li>Setting up and conduct based on the specific processed on the specific processed on the specific processed on the specific processed of the specific procesed of the specific processed of the specific</li></ul>	ordination ing individual <b>proof-of-concept roadmaps</b> roject needs for each team upport and <b>pace-making</b> for your team red decision-making process for each use	VXA Summit Recap batches 1 & 2 May 2024			
Onboarding to promising search fields	Shortlist of top startups for each search field	Selection of best fitting startups	360° view on use cases and roadmap for acceleration phase	Proof-of-con	cept and pilot projects for each use case				
Partner Engagement (ongoing communication, key events, etc.)									

### Overview search fields – Batch 5

Accelerator search fields



# 6. Alternative forms of renewable energy generation 🤝 wienerbergy

The Austrian Post and the Wienerberger Group both currently operate an extensive **network** of hundreds **of locations (logistics sites, production sites**) and are actively expanding their **electric vehicle (EV) fleets** and **electrifying** their **production lines**. To ensure that operations align with the companies' sustainability goals, the Austrian Post is committed to **powering their locations with renewable energy generated on-site**. Similarly, Wienerberger has already invested in its own **energy generation plants** and will continue to expand them.

The companies are looking for **alternative** and **innovative solutions** for renewable energy generation that go **beyond conventional photovoltaic (PV) systems**.

The aim is to secure a **sustainable energy supply** for both their **facilities** and the expanding **electric vehicle (EV) fleet**. These alternative solutions encompass a wide array of possibilities, such as energy-generating **window** or **facade foils**, harnessing **wind energy**, innovative **roofing tiles**, and similar groundbreaking technologies, also based on **gravity** or **hydropower**.



# 7. Predictive maintenance for wind turbines

Down times of wind turbines account for a significant part of operation and maintenance costs. Hence, in order to economically optimize the operation of wind turbines, **down time reduction is crucial for a successful operation and maintenance strategy**. **Currently**, this strategy mainly focuses on the expertise of the technicians on-site, which means that a significant part of operation and **maintenance actions are performed as a reaction** to **turbine failures**.

**Predictive**, **data-driven maintenance strategies** possess the potential of reducing down times (e.g. faster fault detection, predictive procurement of rare spare parts, higher resource planning accuracy) and thereby can contribute to **significantly improve** the **performance** of **wind turbines**. Furthermore, such data-driven approaches are able to **support** operation and maintenance teams **in planning maintenances** and repairs more efficiently. Moreover, **technical evaluation** of turbines can also be improved with advanced data analytics. Therefore, we are looking for solutions that are based on **advanced analytics** using **SCADA** and **status data**, **additional sensorics**, **digital twins** or **machine algorithms**.



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# 8. Recycling of wind turbine blades

Wind turbines can be operated for about 2 decades and are then no longer functional. How their rotor blades made of fiberglass and synthetic resin are subsequently recycled remains a significant problem.

The reason is that the **duromers** used in the wind turbine blades, **cannot be melted down due to the** tight cross-linking of polymers, unlike other thermoplastics such as PET.

Therefore, we look for 2 types of solutions:

- Recycling of existing rotor blades: What happens to the rotor blades that are already there - how can we recycle them nonthermally?
- New material development: How / from which materials could the rotor blades be manufactured in the future to make them recyclable in the future.



# 9. Drone systems for object / perimeter protection

The aim is to **enhance security** in the **perimeter space**, which is the area between fences and operational facilities/sites by implementing a system to **monitor** the **area** and **detect** any **unauthorized access** or trespassing by thieves or robbers **in real-time**.

This can be done by using **swarms of autonomous drones** without GPS that are equipped with **image recognition capabilities**. The drones must possess autonomous intelligence to recognize abnormalities, cluster themselves, and send relevant data to the server without server instructions. These images from different angles and sensor data will be collected at a central unit for analysis, where an AI-based software assembles the images into one holistic picture and determines if the abnormality is an animal or a human intruder and **triggers an alert to the security center if necessary**, where the staff can then alert the police. Human verification in the security center is crucial to prevent evasion by individuals wearing disguises. The drones' vulnerability is the radio signal, which can be intercepted. A countermeasure is to employ both, drone with a wired connection ("tethered drones") and drone swarms to prevent the neutralization of individual drones.



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# 10. Energy management

The companies currently operate an extensive network of hundreds of locations (logistics sites, production sites). They are actively expanding their electric vehicle (EV) fleets, electrifying their production lines and expanding their own energy generation plants. To efficiently operate such a virtual power plant or micro grid, they recognize the need for a **holistic** and **location-specific energy management solution**.

This solution comprises systematic monitoring and forecasting of energy consumption and generation, load management, as well as planning and implementation of structural measures for the (long-term) optimization of the energy system by managing consumption, generation and storage. Moreover, it will facilitate the integration into energy markets, enabling to leverage economic benefits from flexibility and energy trading opportunities. Additionally, this solution will empower with fleet management capabilities and with electrification of production and logistic chains. The ultimate objective is to optimize both energy consumption and generation at each location capitalizing on the economic advantages presented by cross-location energy management and flexible energy trading strategies.



