

Munich | April 17, 2024 | Sustainability Circle

Building an industrial implementation alliance for the circular economy



//

Agenda

1. UnternehmerTUM
2. CIRCULAR REPUBLIC
3. Diskussion Kooperationsmöglichkeiten





**UNTER
NEHMER
TUM**

**WE TURN VISIONS
INTO VALUE**

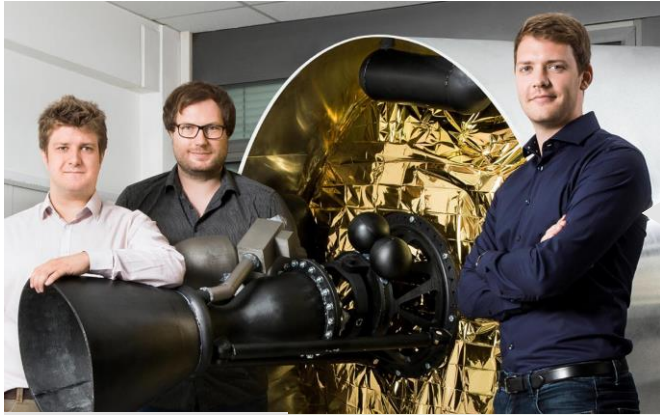
Building new tech businesses together to shape the world we want to live in.

At UnternehmerTUM, visions turn into value. Our teams empower innovation enthusiasts to take entrepreneurial action. Together with start-ups and established companies, we drive tech ventures forward - from first idea to market leadership.

In collaboration with the Technical University of Munich (TUM) and entrepreneur Susanne Klatten, we've been promoting future-forward start-ups such as Celonis, Konux, Lilium, inveox, and Isar Aerospace since 2002.



Our Start-up Success Stories



isar aerospace



celonis

FLIX



LILIUM



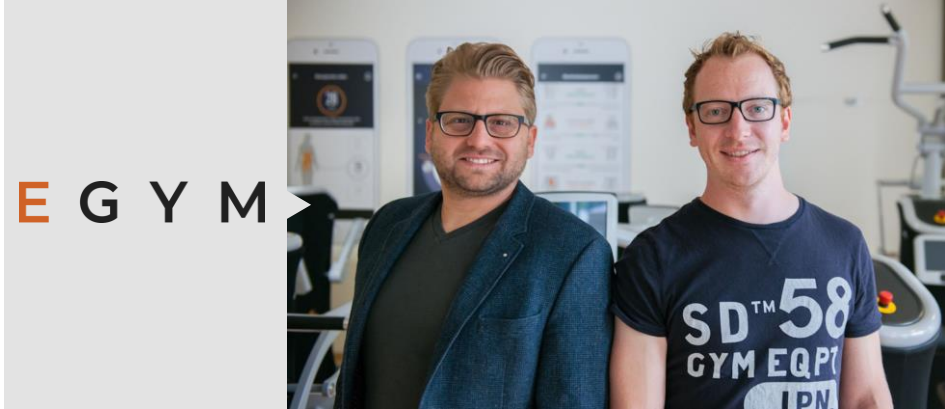
Our Start-up Success Stories



tado°



Personio



E G Y M

FINN



Success Stories with Family Businesses and Our Corporate Partners

**NEMETSCHEK
GROUP**



FESTO



wanzl



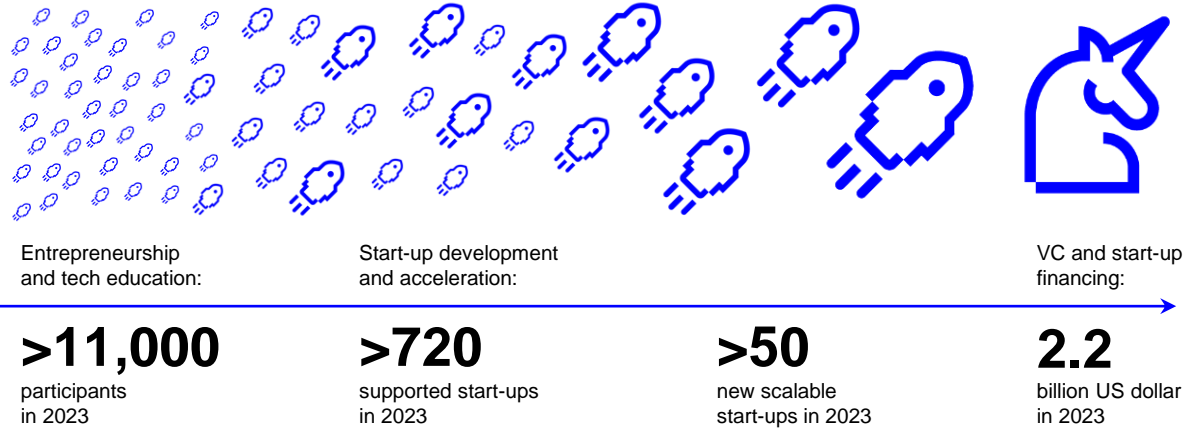
WACKER



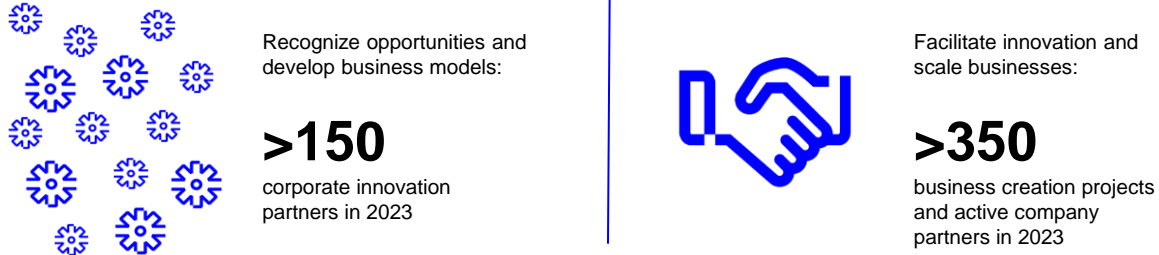
Review 2023

- Founded in 2002, owned by entrepreneur Susanne Klatten
- Largest European entrepreneurship center: From first idea to IPO
- Part of TUM - Technical University of Munich, Europe's number one technical university
- Biggest open B2B start-up platform with corporate partners like BMW, DATEV, E.ON SE, FESTO, Infineon, Linde, SAP, Siemens
- High performance VC fund with EUR 386 million under management - cooperation with leading global VCs like atomico, Burda Principal Investments, GA, Lakestar and NEA
- Average annual growth rate >25% (output, sales and employees)

ENTREPRENEURSHIP



INNOVATION



**We are
honored
to be
1st place**



**UNTER
NEHMER
TUM**



**U | TUM VENTURE
LABS**

FT FINANCIAL
TIMES

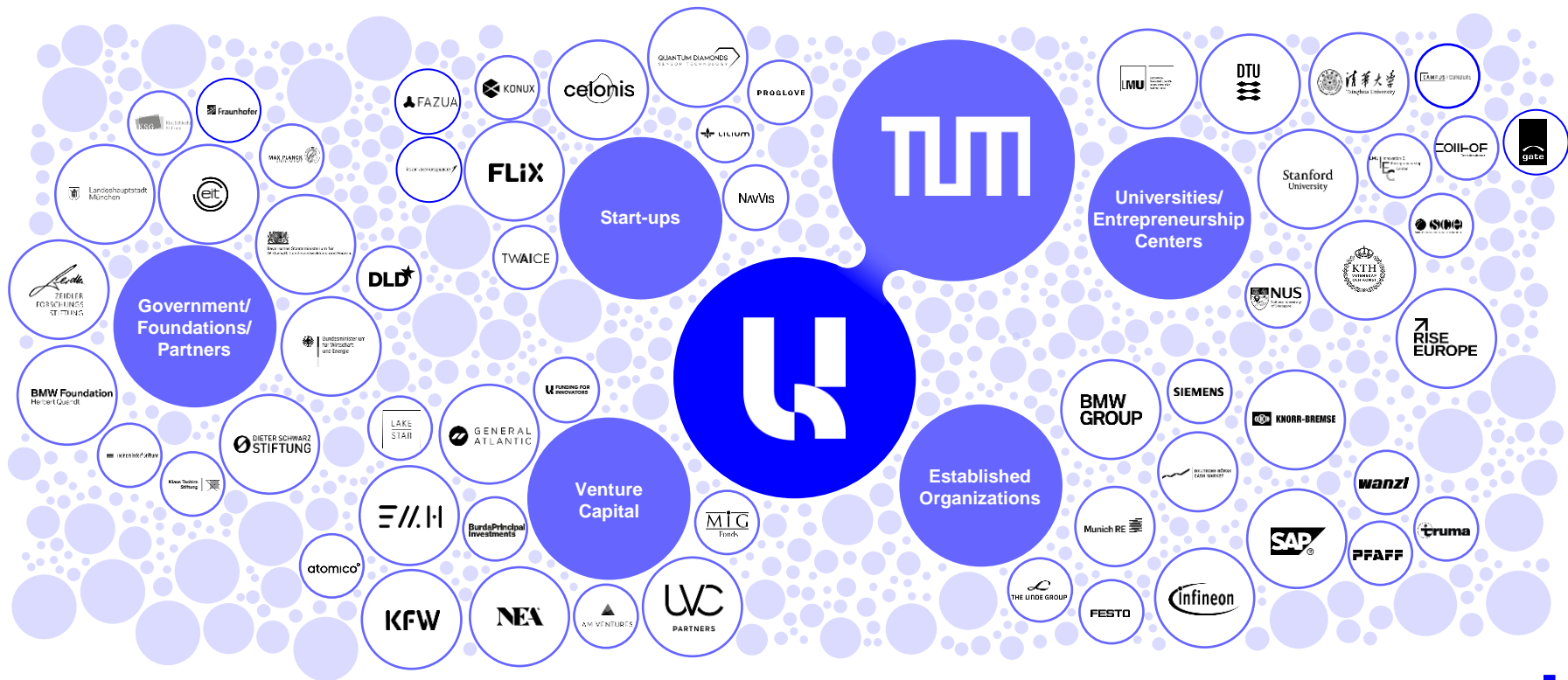
EUROPE'S LEADING
START-UP HUBS
2024

statista  \sifted/

**as an innovation
ecosystem!**



We Bring Together a Community that Creates Value for Good



Bringing Innovation Forward

Entrepreneurship Education

Our programs and initiatives



Start-up Programs



Innovation for Companies



High-Tech Ecosystem



Smart Capital



Our joint ventures



Our collaborations



Erasmus for Young Entrepreneurs



NextGen Bavaria



Bringing Innovation Forward – providing the perfect ecosystem for startup journeys from start to finish



Where Innovators Meet - Our Locations

**UNTER
NEHMER
TUM**

HQ
Lichtenbergstr. 6
85748 Garching

NEBourhoods Pavilion
Theodor-Heuss-Platz 1
81737 München, Neuperlach

**Munich
Urban
Colab**

HQ
Munich Urban Colab
Freddie-Mercury-Str. 5
80797 Munich

UVC
PARTNERS

HQ
Lichtenbergstr. 6
85748 Garching

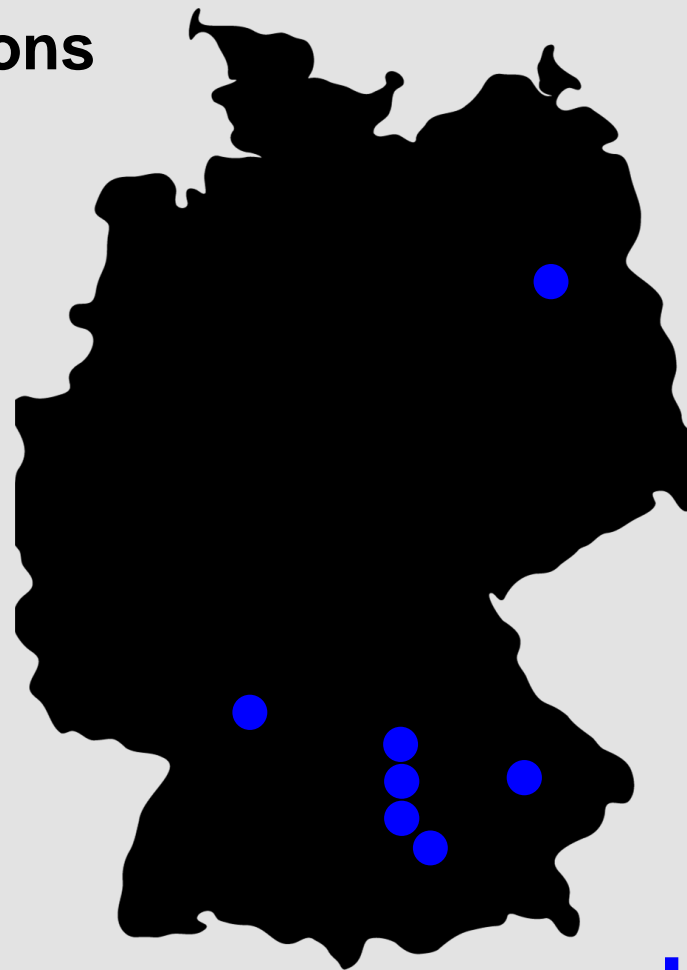
Munich Office
Munich Urban Colab
Freddie-Mercury-Str. 5
80797 Munich

Berlin Office
Friedrichstr. 68
10117 Berlin

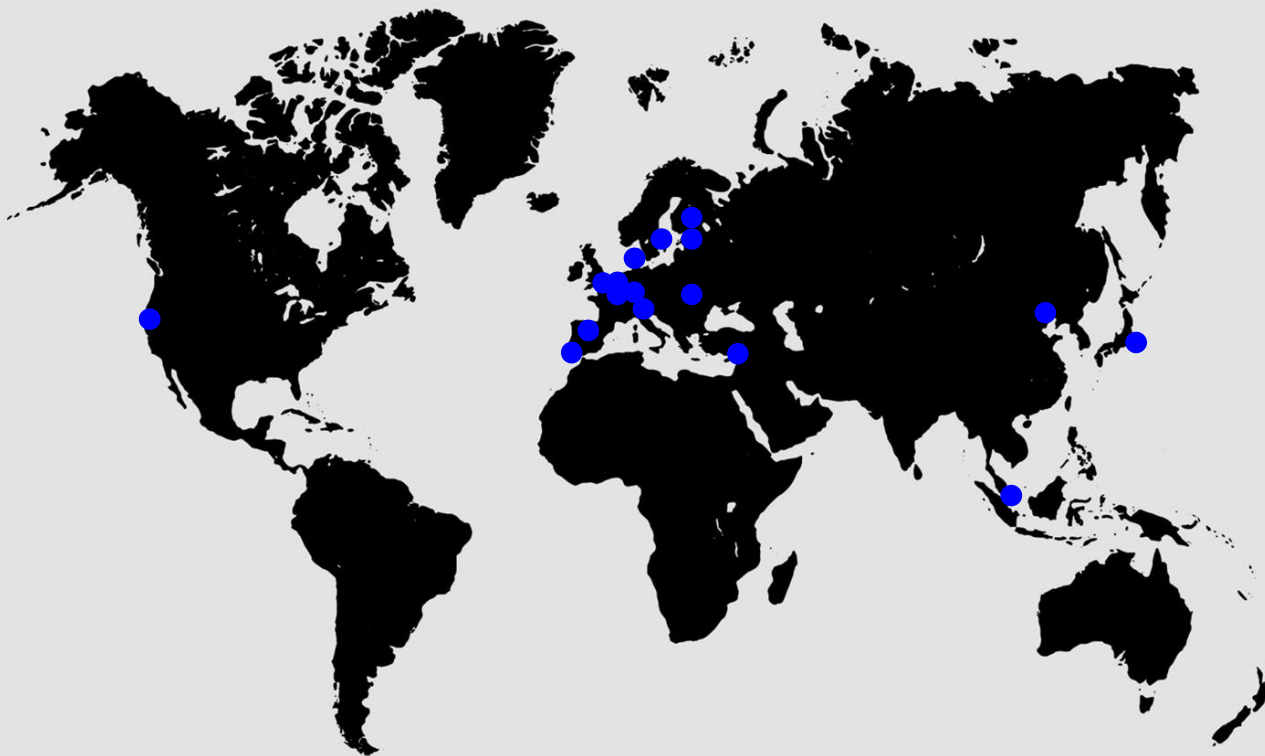
**U | TUM VENTURE
LABS**

HQ
Lichtenbergstr. 6
85748 Garching

14 Labs in 6 Locations
Munich / Ottobrunn / Garching / Freising
Heilbronn / Straubing



Strong International Partners



IN EUROPE

“Like-minded strong partners in Europe join forces with UnternehmerTUM as impulse generators for human-centered and sustainable tech innovation.”

- Rise Europe
 - “The European network of leading start-up ecosystem builders”
 - Aalto University – Agoranov – beta-i – Campus Founders – DTU + DTU Skylab – HighTechXL – École Polytechnique – ETH Zurich – HighTech XL – IE University – Imperial College London + Imperial – IniTS – KTH +
 - Sting – Oxford Enspire – TalTech – Tangent – Trinity College Dublin – Vento
- École polytechnique fédérale de Lausanne
- HEC Paris
- PoliHub, Milano
- Politecnico di Milano
- Technion Israel
- TU Eindhoven

GLOBAL

“UnternehmerTUM builds and nurtures partnerships with globally leading Entrepreneurship Ecosystems, e.g., TUM Partners of Excellence.”

- German Accelerator (GASEA) + NUS, Singapore
- Stanford + UC Berkeley, Silicon Valley
- Tsinghua University + x-lab + z-park, Beijing
- University of Tokyo



UnternehmerTUM in Press – Highlights

Frankfurter Allgemeine



München zeigt den Weg

UnternehmerTUM tops ranking of Europe's leading start-up hubs

The Munich-based lab has ambitions to turn Germany into one of the main centres for early-stage companies



FINANCIAL TIMES

manager magazin

ZUKUNFT IN GROSS



Wie zwei Multimilliardäre mit ihrem Geld Deutschlands Wirtschaft innovativer machen wollen.

Süddeutsche Zeitung



Frauen an die Macht

In vielen Familienunternehmen droht der Generationenwechsel zu scheitern. Viel zu oft werden Töchter bei der Nachfolge übergangen. Warum eigentlich? Zwei erfolgreiche Geschäftsfrauen zeigen, dass es auch anders geht.

Handelsblatt

Europas größtes Gründerzentrum startet Initiative zur Kreislaufwirtschaft

Circular Republic will Unternehmen helfen, mit wiederverwertbaren Produkten nachhaltiger zu werden. Dabei kann die Initiative auch Das-Konzern wie BMW und SAP zu den Partnern zählen.

Frankfurter Allgemeine

ZEITUNG • FAZ.NET

„Neuer Taktgeber“ für Europas Start-ups



WirtschaftsWoche

München, die ewige Adresse des Erfolgs

Süddeutsche Zeitung



Der Stoffwechsel der Stadt

München verbaut sich die Zukunft. Der Stoffwechsel der Stadt. Ein Bericht von... (text is small and partially illegible)

Süddeutsche Zeitung



So kann Deutschland doch noch Gründerland werden

Business Punk

WORK HARD. PLAY HARD.



IN DER WERKSTATT FÜR DIE ZUKUNFT



Board and Management

„Through my commitment, I want to encourage entrepreneurship in Germany. As an entrepreneur I know that the work of UnternehmerTUM is an important step towards a new culture of entrepreneurship in our society.“

Susanne Klatten

Management Board (MB), Supervisory Board (SB):

Andreas Liebl (MB)

Christian Mohr (MB)

Claudia Frey (MB)

Prof. Dr. Frank Richter (SB)

Stefan Drüssler (MB)

Peter Schwarzenbauer (SB)

Thomas Zeller (MB)

Prof. Dr. Dr. Ann-Kristin Achleitner (SB)

Prof. Dr. Helmut Schönenberger (MB)

Susanne Klatten (SB)

Prof. Dr. Thomas F. Hofmann (SB)

Not depicted: **Philipp Gerbert** (MB)

//

Agenda

1. UnternehmerTUM
2. CIRCULAR REPUBLIC
3. Diskussion Kooperationsmöglichkeiten



Brief summary of CIRCULAR REPUBLIC

At UnternehmerTUM, visions turn into value. Our teams empower innovation enthusiasts to take entrepreneurial action. Together with start-ups and established companies, we drive tech ventures forward - from first idea to market leadership. In collaboration with the Technical University of Munich (TUM) and entrepreneur Susanne Klatten, we've been promoting future-forward start-ups such as Celonis, Konux, Lilium, inveox, and Isar Aerospace since 2002.

CIRCULAR REPUBLIC is UnternehmerTUM's initiative to drive a Circular Economy. Together with our partners, we build an **implementation alliance for circularity**.

Leveraging the innovation ecosystem of **Europe's largest center for innovation and entrepreneurship**, we lead multi-stakeholder-projects to close the loop in targeted sectors such as batteries/vehicles, textiles and electronics/ICT or packaging and enable start-ups and company partners to become change-makers for a prosperous, resilient and sustainable economy. With the first CIRCULAR REPUBLIC FESTIVAL in November 2023, we have created the central European lead event for applied Circular Economy with 2000+ participants on site at the Munich Urban Colab and throughout Munich and Germany.

Corporate partners



Leveraging the innovation ecosystem of UnternehmerTUM ecosystem, we turn circularity into a reality

CE Researchers and Think Tanks

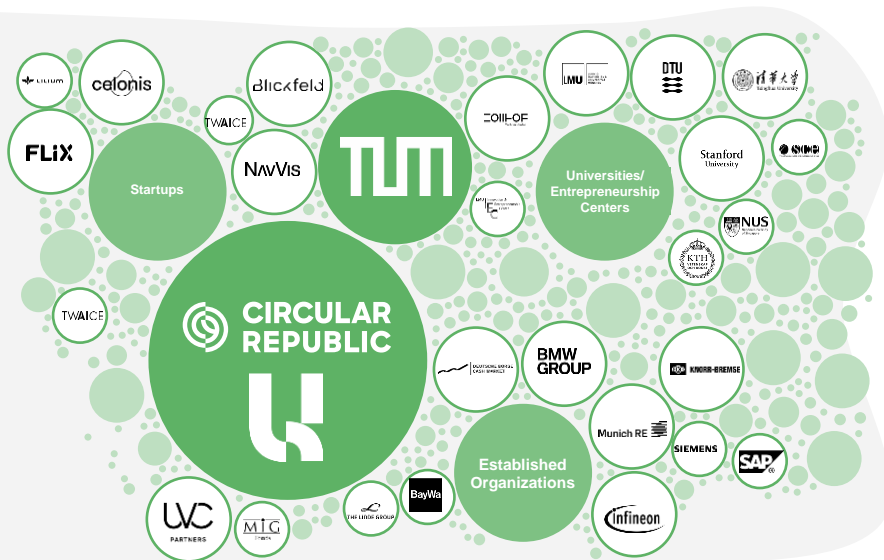
produce circular economy theory, frameworks and status quo descriptions

CE Consultants

develop strategies for circular businesses

CIRCULAR REPUBLIC

builds on years of of world class CE research and translates good theory into **good practice** by leveraging Europe's largest entrepreneurship and innovation center



Enable, act, inspire: Building an industrial implementation alliance for the circular economy



We empower to make circular economy a reality and turn it into the core of your business model

access to the circular economy **start-up ecosystem**

different kinds of circular economy **learning programs** (peer-to-peer Masterclass, business strategy gaming, circular readiness scan)

direct access to latest **research** and R&D cooperation opportunities



We connect relevant partners and develop circular solutions along value chains, creating scalable and investable opportunities.

initiation and orchestration of sector-specific **multi-stakeholder projects** with established companies and start-ups

facilitation of **startup-corporate-collaboration** across market segments

hackathons, tech challenges and startup competitions in order to develop solutions with a large talent pool



We provide system-changing impulses and drive the circular economy forward

various **communication channels** for your messages and numerous **events** with networking opportunities, inspiration and knowledge-sharing

CIRCULAR REPUBLIC FESTIVAL as **central-european lead event** on circularity

publication of the first-ever **Circularity Gap Report** on urban level for Munich in autumn 2023

We are a
non-profit
organization

Our activities are made possible through our
corporate partners
who pay a membership fee and co-shape our initiative

As a hands-on
implementation platform and neutral orchestrator
we are able to drive industry-defining projects and manage cross-company collaboration

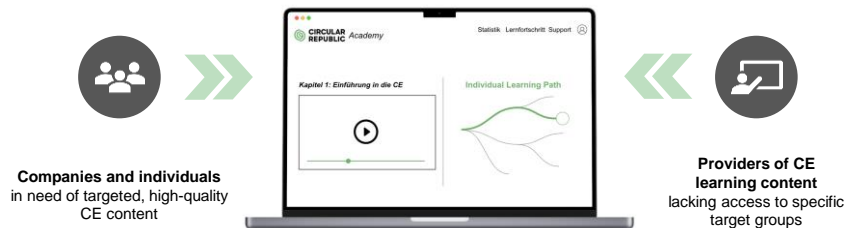


Driving circularity in UnternehmerTUM start-up programs as well as with dedicated company formats

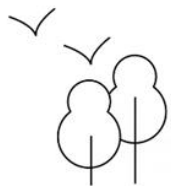
- > 150 participants in-person workshops with broad reach into different company departments (Finance, Sales, Purchasing, Innovation, Sustainability, Strategy, Technology, Product Development, Production, Services, Quality Management, ...)
- > 50 participants from **Start-ups** and established integration into (some) UnternehmerTUM programmes such as XPLORE, Manage & More, etc.



- Building on in-person workshops, we are now developing a Circular Economy e-learning platform for curated content and tailored learning journeys



REACH OUT TO GET
FULL CONTENT!
CIRCUCLARREPUBLIC@
UNTERNEHMERTUM.DE



Circular Inputs ①
Supply and use of renewable, recycled, or highly recyclable materials in production to minimize waste and pollution.

traceless  Voodin Blade Technology  VYLD  BIOVOX
 BIOWEG  TRIIBRI  BIO-LUTIONS  ecoLocked
 holy  HOPFON  Infinite Roots  Lignopure  Made of Air
one•five  PROSERVATION  WILDPLASTIC®
and many more...

Sharing Platforms ②
Maximized utility rates of products and assets through collaborative usage and shared access, often through digital technology.

 AKKURENT  boomerang®  CIRCLECUBE  WECARRY
 circulation  fainin  faircado  FLUX  kolula
kooky.  poze  PACER  Relevo  sharely  sigo
sykell uRyde Vytal and many more...

Product-as-a-Service ③
Commercialization of a product's usage and function rather than its possession, ensuring performance, maintenance and reverse logistics.

 Swobbee  vibrant  CIRCULAR OF  CYCLE
 Dance  everphone  FLEXVELOP  lendis
NOR  RE ORINK  sTyle  toddle  nomadi
and many more...



Resource Recovery ⑥
Capturing the value of materials and energy from products after they've been used, through recovery and recycling.

KLEIDERLY.  Matoha  NABORE®  Radical Dot  saperatec  SOLAR MATERIALS
Syre  tozero  WESORT.AI  continuum
 CYLIB  DePoly  eeden  everwave
and many more...

Circular Enablers ⑤
Promote sustainability, minimize waste, and enhance resource efficiency, supporting the transition towards a circular economy.

Concular  US  BRAIN BY  Google  circunomics  Cirplus  Delicious Data
examatter  Fairown  foodforecast  korvi  LIFEPAK  Longitude  LOOPID
 madaster  Resourcify  SCHROTTBIENEN  SPYK  TUM
TWICE and many more...

Product Lifetime Extension ④
Strategies to prolong the lifespan of a product at its highest value, e.g. by upgrades, repair, reconditioning, or resale on secondary market.

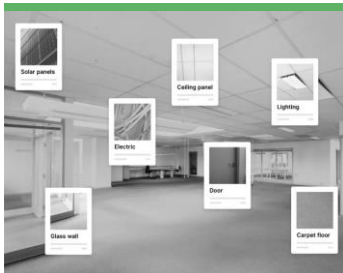
Tildi  BAVERTIS  batteries  BRAKEABLE  circulee  CIRCUL LIFESPAN
DESOLTIK  faircado  fixfirst  octave  REBIKE  rebuy  @furbid
 Reparando  SPARETECH  STABL  Voltfang and many more...

Selected circular start-ups from the UnternehmerTUM and CIRCULAR REPUBLIC ecosystem

traceless



Concular



resortecs®



hey circle



LiBCycle



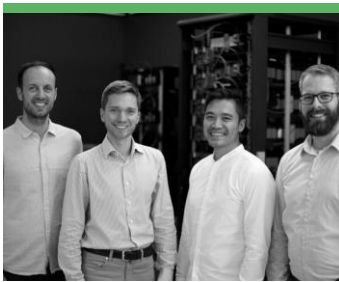
cirplus



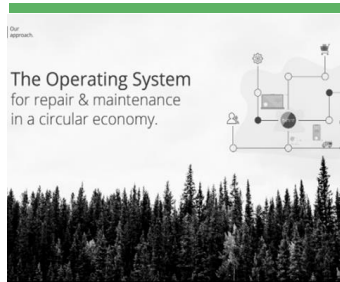
Resourcify



STABL



fixfirst



tozero



In targeted sectors, we initiate and orchestrate collaboration projects to close the loop

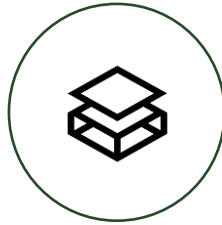


EV batteries

since 01/2023

Reverse logistics, second life, automated disassembly and hydrometallurgical recycling of 13 t of BEV batteries.

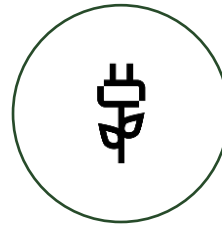
Details on next slide



Textiles

since 01/2023

Multiple workstreams to redesign the textiles sector including use, collection, and recycling

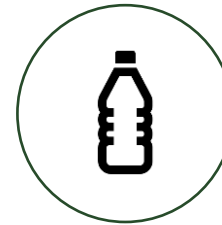


Electronics and ICT

since Q2/2024

Industrial electronics: Closed loop including take-back, reuse/refurbishment/ reman and enhanced recycling, combined with EaaS models

Consumer electronics: Takeback, disassembly and recycling of large household appliances



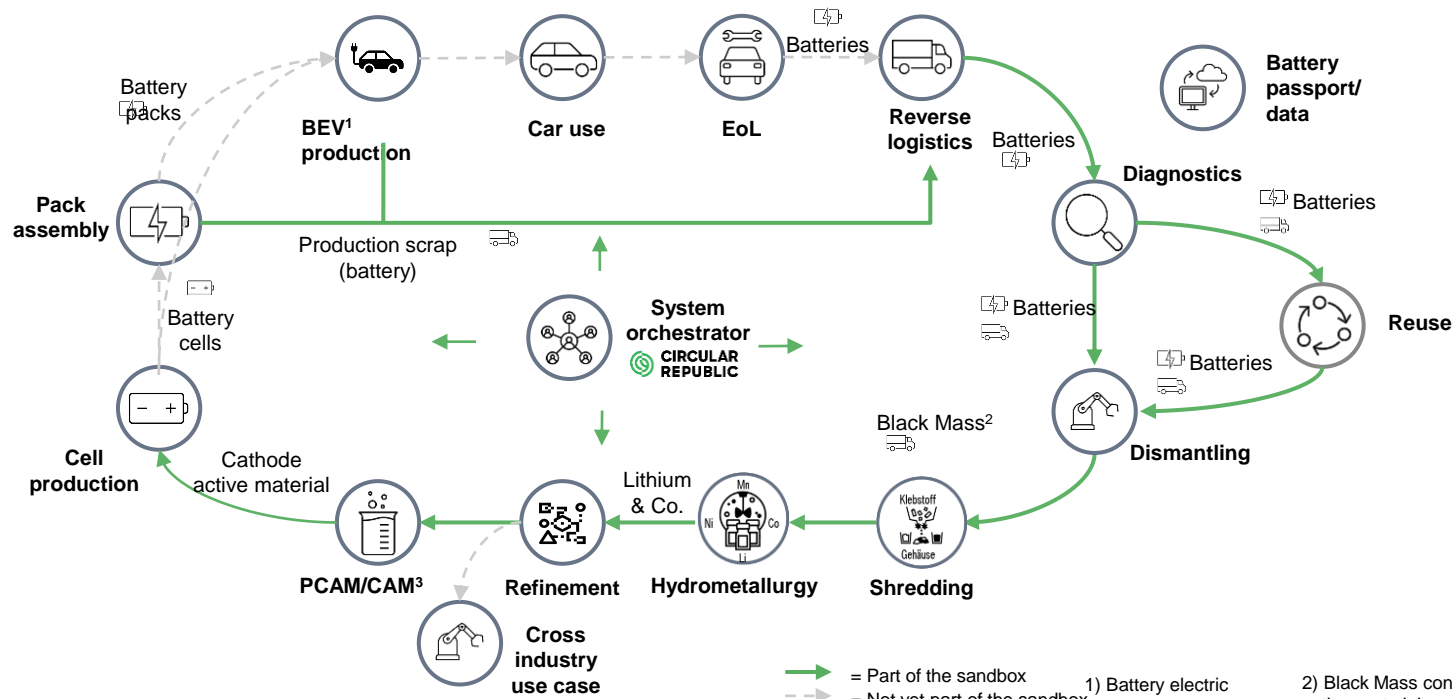
Packaging

starting Q2/2024

Open loop for cosmetics packaging incl. takeback mechanisms, recycling and sorting, and secondary materials based production and sourcing



Exemplary „ACT“-Project: Closing the loop for battery materials in a cross-industry collaboration



Aurubis

BMW GROUP

MAN

SAP

Webasto

CIRCULION

LIBcycle

STAB L

tozero



In the next generation of our projects, we apply learnings to further action fields in automotive and other industries

1st-gen projects



Successes

- Many learnings
- Initial successes
- One spin-off start-up



Challenges

- Dealing with **bureaucracy**
- Dealing with **anti-trust**
- Collaboration in **early-phase PoCs**
- **Expectation** management



Learnings

- Bring partners into action quickly
- Focus on learning in first phase, and scale in later phase
- Clarify roles, and define scope for startups
- Include capability building
- ...



Next steps

- **Scaling impact of 1st-gen projects by:**
 - Extending operations
 - Supporting growth of participating start-ups

further development
and transfer in

2nd-gen projects

Batteries and
Vehicles

“Verwertungsfabrik der Zukunft”

with BMW at core

Non-cathode battery material

with existing consortium (and further incoming partners)

Electronics
and ICT

Industry electronics

with BMW and Siemens at core

(Large) consumer electronics reverse factory

with BSH Home Appliances Group at core

Packaging

Cosmetics packaging

with L'Oréal at core, and e.g. Tomra, Mastercard

Textiles

Apparel recommerce

with Gore and Bergzeit at core

Textiles B2B material platform



Promoting circularity in broad industry, society and politics



- Launch of the new CR **Start-up Landscape** (03/24)
- Upcoming joint “**Grand Challenge**” with **SPRIND** (Bundesagentur für Sprunginnovationen) on Circular Economy, starting presumably 07/24 as a three-year program

- Successful premiere of the **CIRCULAR REPUBLIC FESTIVAL** (11/23) as Central-European lead event for the Circular Economy, with major speakers and > 2.000 participants on-site and virtually, and vast media coverage
- Close collaboration with the **Federal Chancellery** (since 07/23) in the “Allianz für Transformation”, culminating in the “Spitzendialog” with Olaf Scholz and Oliver Zipse (01/24)



Let's work together to build a circular economy!



Niclas-Alexander Mauß
+49 176 97864101
niclas.mauss@unternehmertum.de

CIRCULAR REPUBLIC
UnternehmerTUM GmbH
Freddie-Mercury-Str. 5
80797 Munich

www.circular-republic.org | www.unternehmertum.de



//

Agenda

1. UnternehmerTUM
2. CIRCULAR REPUBLIC
3. Diskussion Kooperationsmöglichkeiten

