



EXISTER BIOTECH

SOLVING FRONTIERS

Bio-based plastics circular economy through molecular recycling



Molecular recycling process which enables a closed recycling circle for all polyester plastics



Highly effective and efficient enzyme development and optimization process



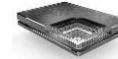
Simple process with low energy demand



AI-driven process



Patented pre-processing method



Patented high-throughput degradation analyzer



Enzyme with best degradation performance for PET



Transferability for biodegradability testing



Bio City Leipzig, Germany



Close cooperation with several excellence research teams from University Leipzig



5 full-time team members



Federal funding for sustainability excellence projects (volume > 1 Mio. €)

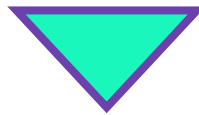


Company foundation in Q1 2025

CHALLENGE



> 99 % of plastic packaging are leaving the cycle



Strong negative impact for human living conditions and health

Side facts



Plastic production uses around 10 % of crude oil



36 kg/a per person plastic packaging waste in EU

Trends & regulatory



Increasing sustainability awareness of end customers



Increasing CO₂ costs & plastics tax

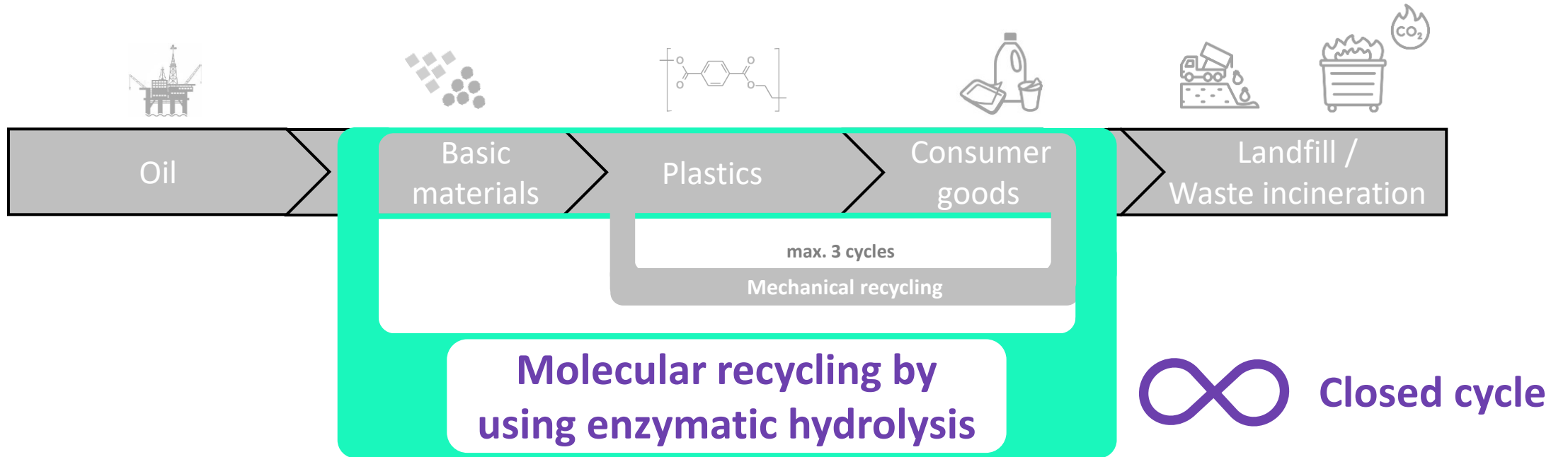


Stricter mandatory recycling quotas



Prohibition of non-recyclable of materials

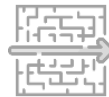
Our solution enables a sustainable plastic circular economy



All polyesters



Fast depolymerization



Simple process

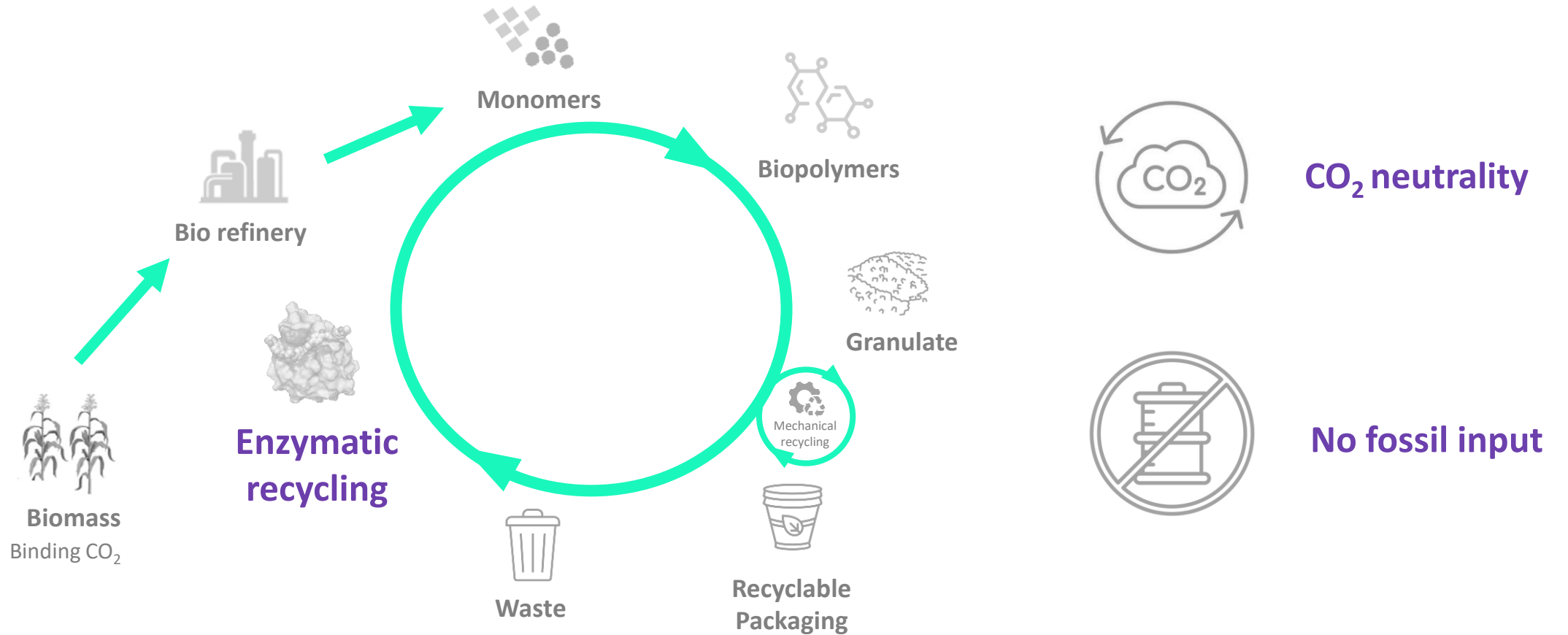


Low energy input
Exhaust heat utilization



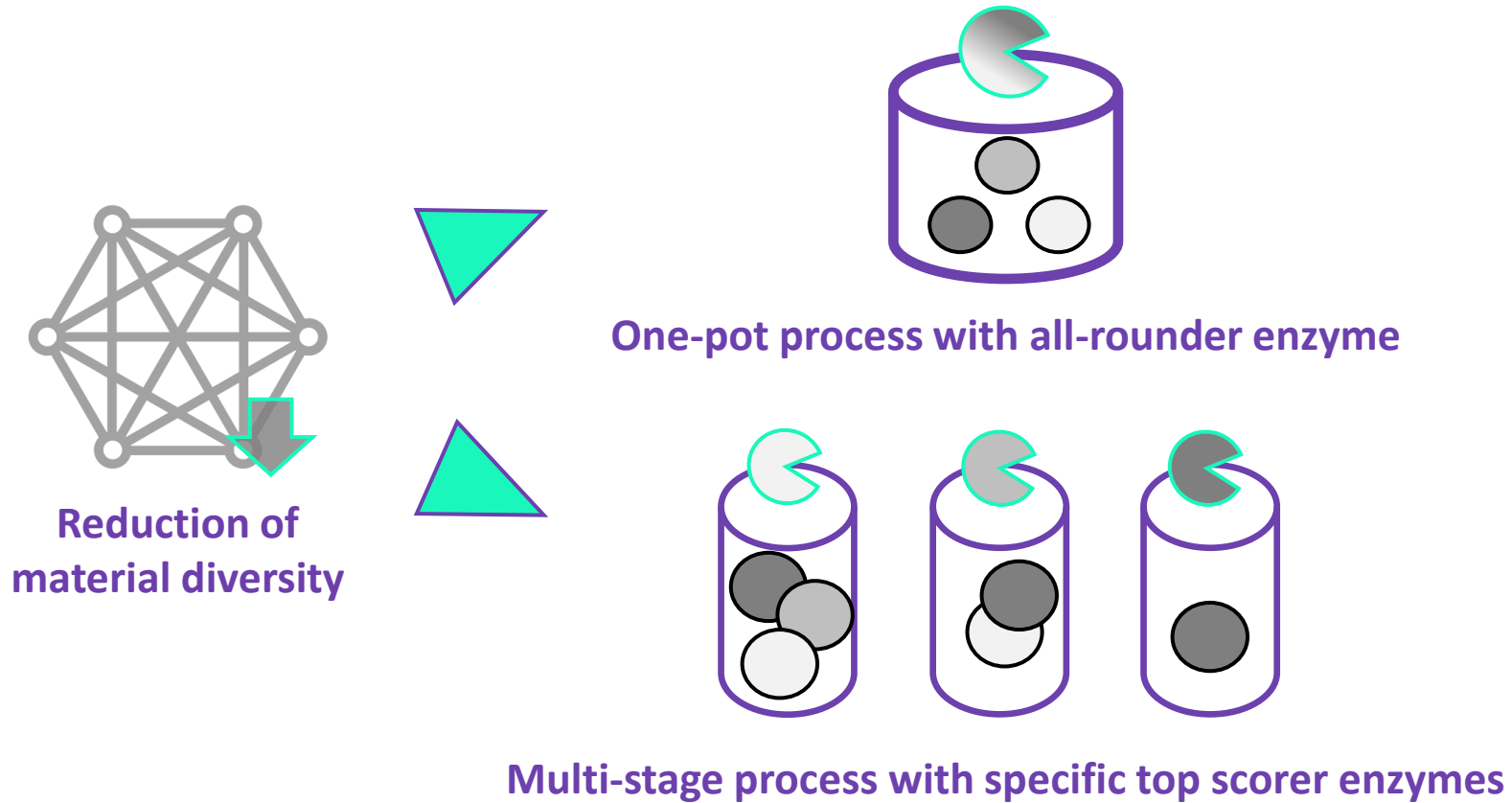
No pressurization

Bio-based plastics circular economy through molecular recycling

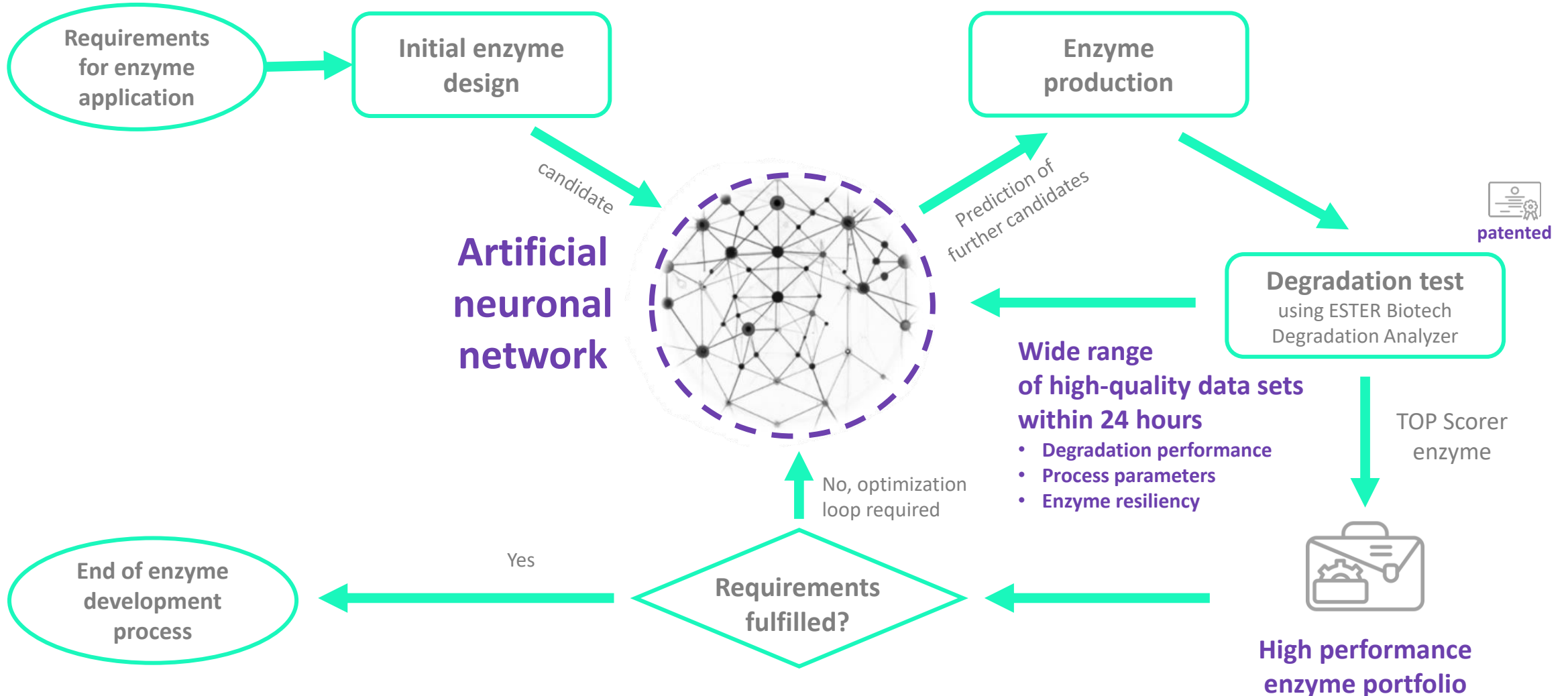


Bio-based plastics circular economy through molecular recycling

- Streamlining of the overall recycling process -



Highly effective enzyme development & optimization process



Patented Degradation Analyzer generates big data in high quality which enables good prediction accuracy and high effective optimization loops



Continuous live measurement



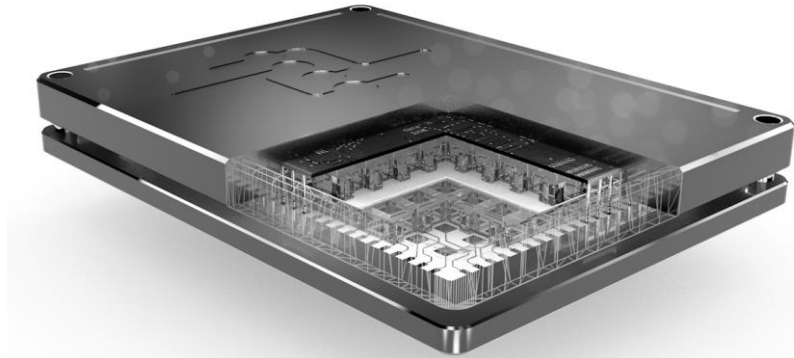
High accuracy & sensitivity



Robust measurements



Results in 24 h



patented



Parallelizing



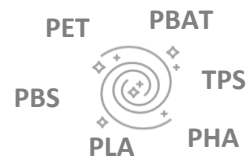
Automation



Original material test samples



Multi-layer test samples



Universal applicable

BUSINESS CASES

Product / Service

Potential
Customer groups

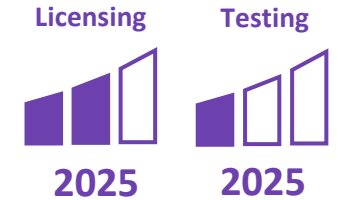
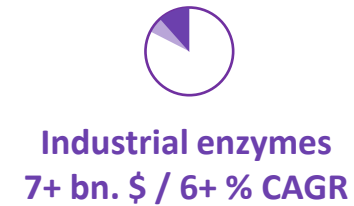
Global
market size

Revenue potential &
conceivable market entry



**Licensing of enzyme sequences &
Test services for enzyme development**

Enzyme developers
& manufacturers



**Test services for rapid indication regarding
biodegradability or compostability of plastics**

Bioplastic industry &
Test service providers

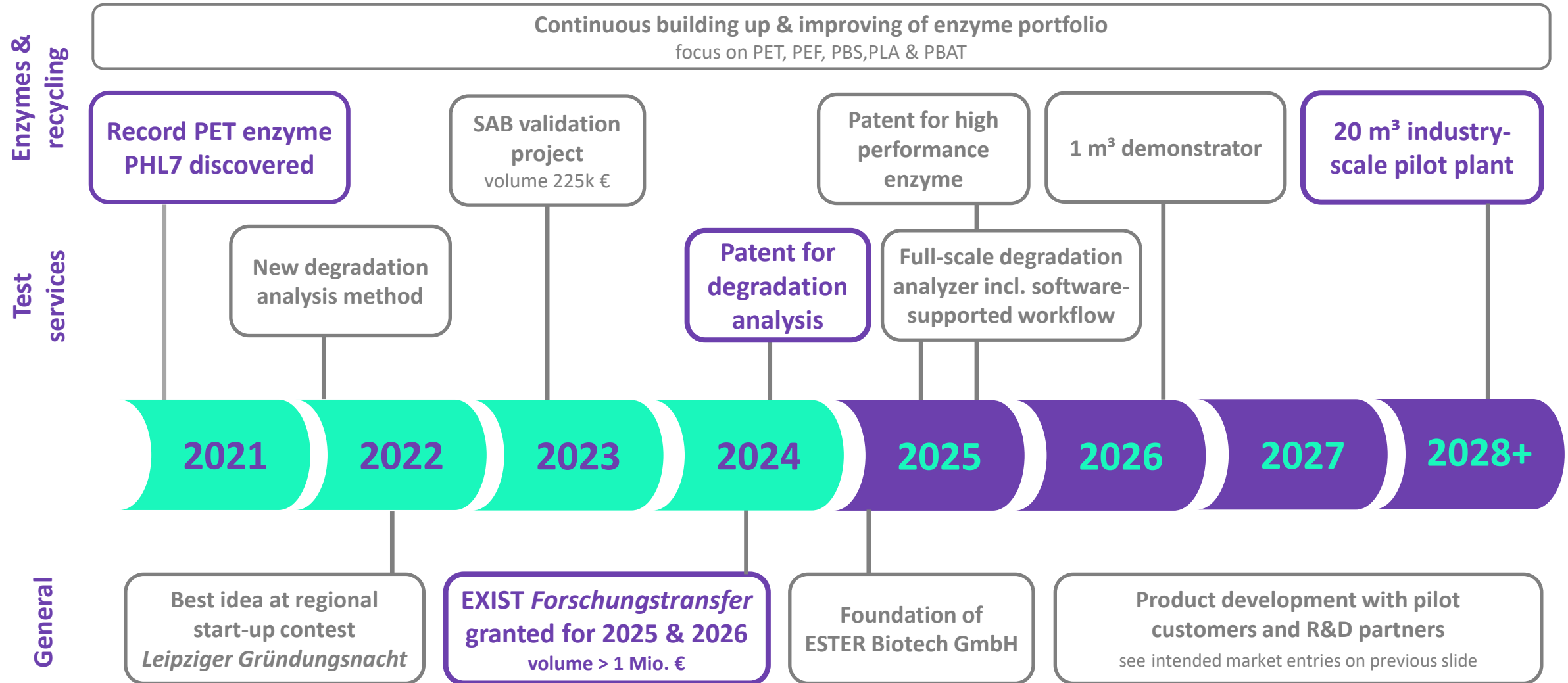


Technology licensing of recycling process

Recycling & chemical
industry



MILESTONES



TEAM



Ronny Frank
CEO / Founder
Ph.D. Biochemistry

Christian Sonnendecker
CSO/ Founder
Ph.D. Biochemistry



Martin Hirschfeld
CBO / Founder
M.Sc. Industrial engineering

Madalin Ceausescu
CTO / Founder
M.Sc. Chemical process engineering



Alexander Hergett
Software Engineer
M.Sc. Bioinformatics

Be part of the future and create a plastic circular economy together with ESTER Biotech!



Customers



Funding opportunities



Intrinsic-motivated contributors



Cooperation partners



Strategic investors & Business angels



All other kinds of supporters



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