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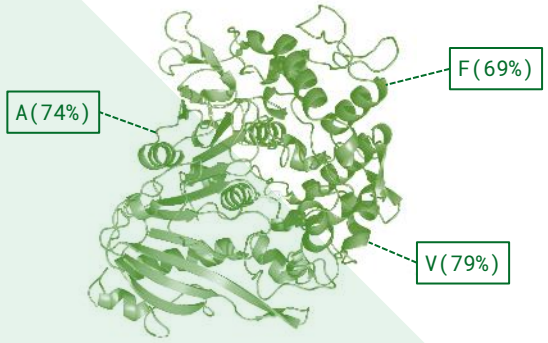
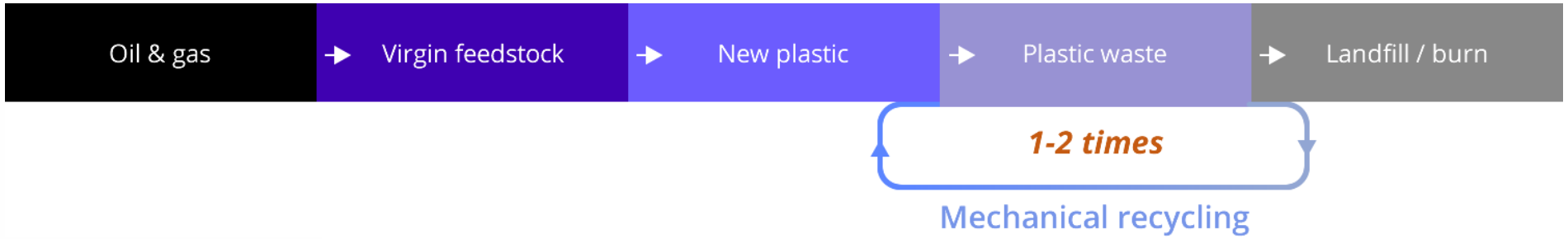


The bio-platform for true plastics circularity

>90% new plastic *still* fossil fuel based:



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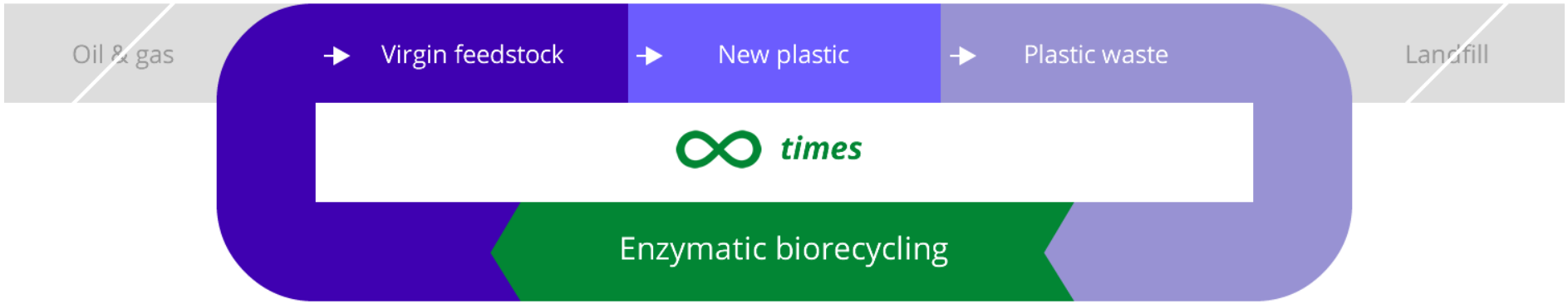
Closing the loop with biotechnology:

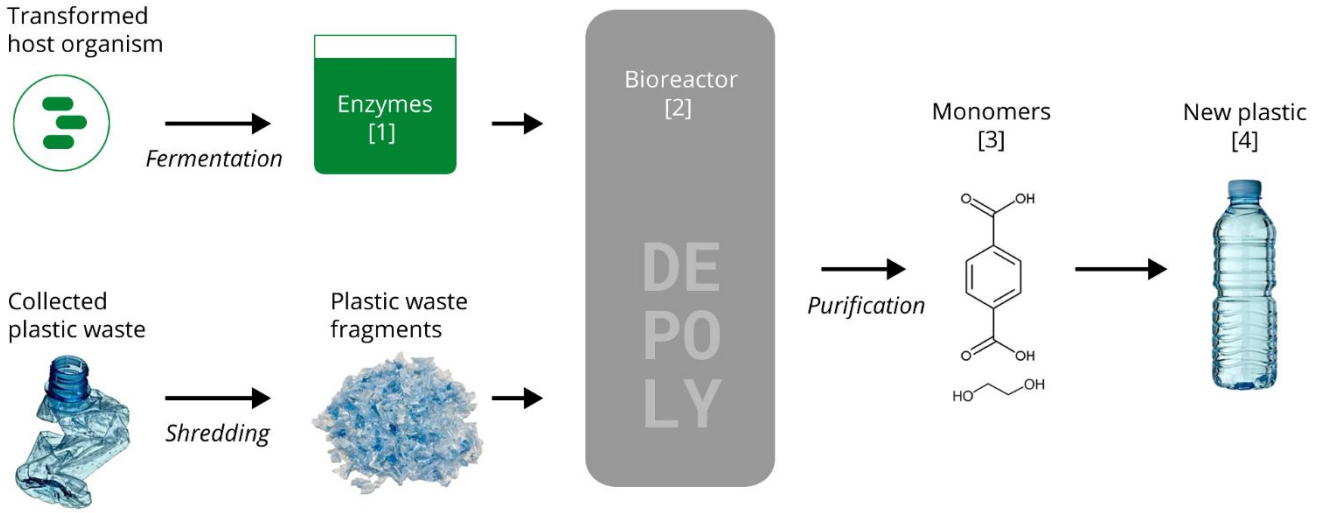


Technology

Recycling plastic with engineered enzymes *(PET example)*

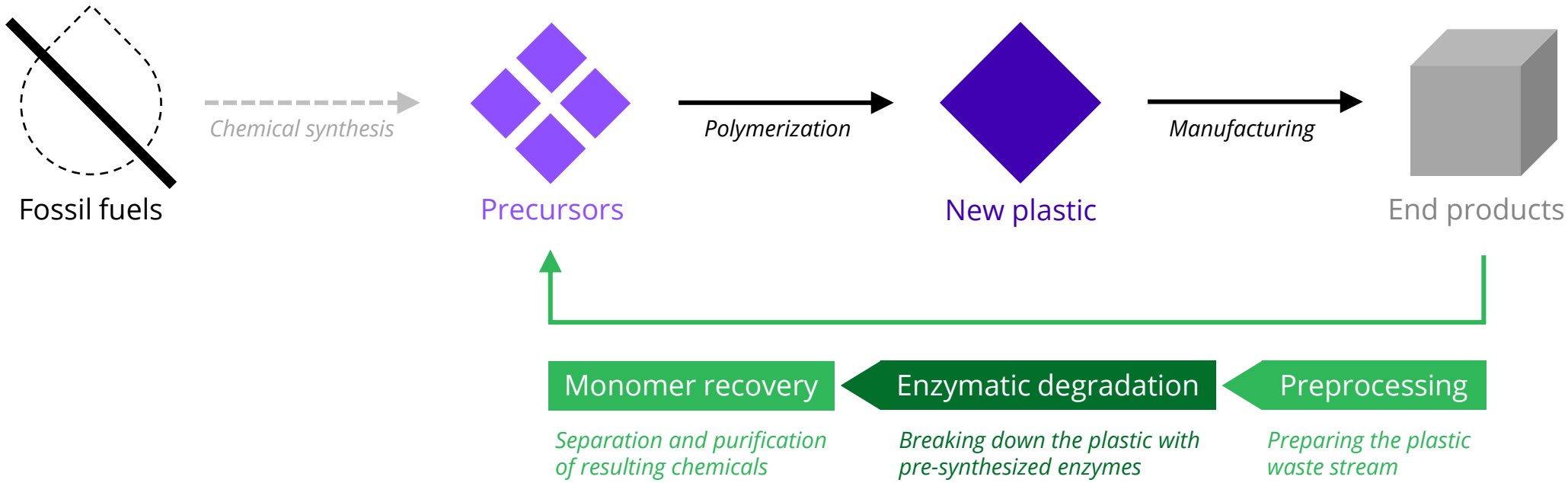
1. Produce heterologous enzymes
2. Treat plastic waste with enzymes
3. Recover individual monomers
4. Use monomers to make new plastic

   Run the cycle [2 → 4] *ad infinitum*



Commercialization

From plastic waste to plastic precursors



Advantages

Creating a new niche in recycling:

	Enzymatic	Mechanical
Infinitely circular?	✔	✘
Mixed inputs?	✔	✘
Lower emissions?	✔	✘

Sustainability

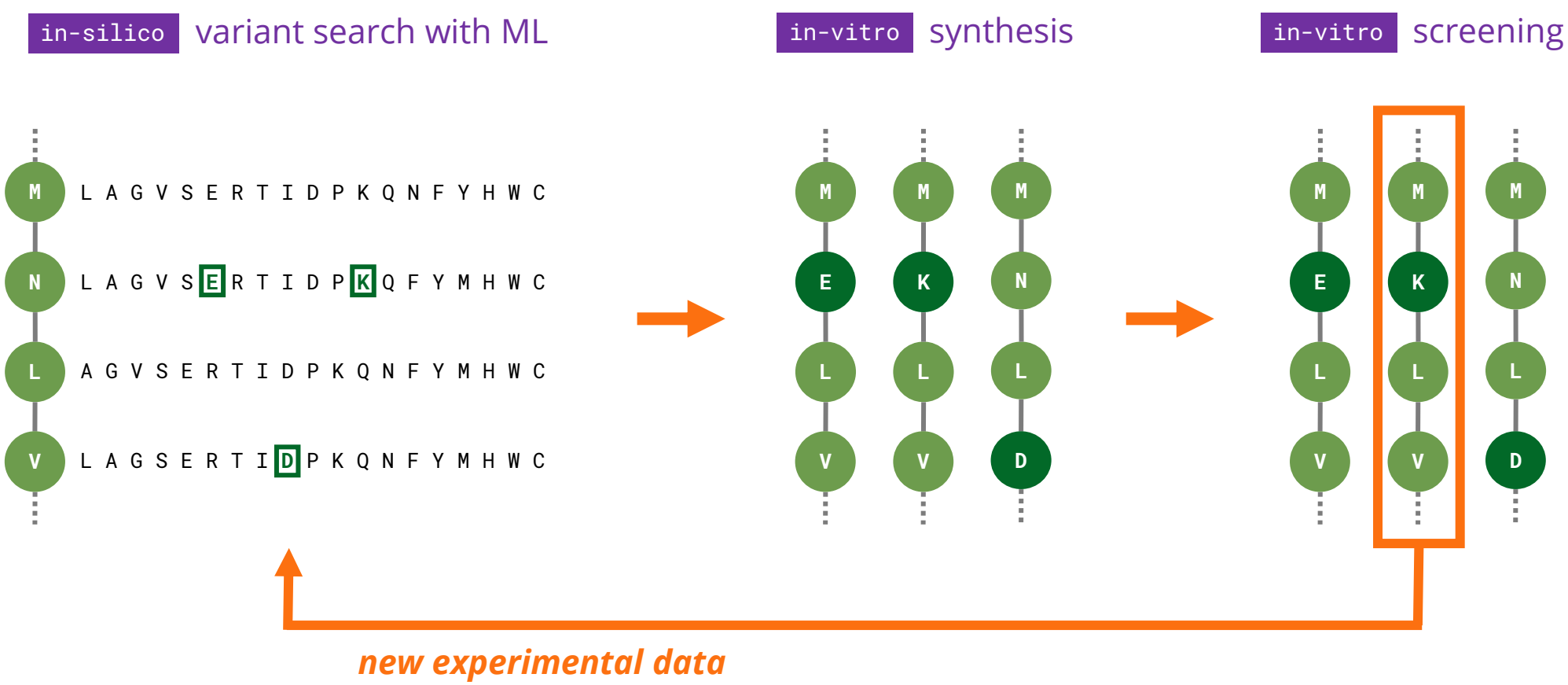
-1.5t CO_2 emissions per tonne of plastic

Differentiation

Unique features vs competition

	enzymity	CARBIOS
Main focus	Platform	Process
Enzyme optimization	In-silico	In-vitro
Waste streams	Mixed	Pre-sorted

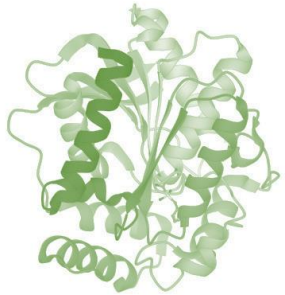
Enzyme optimization platform



First tests of engineered enzymes:

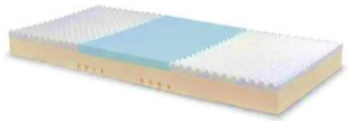
`hydrolase`

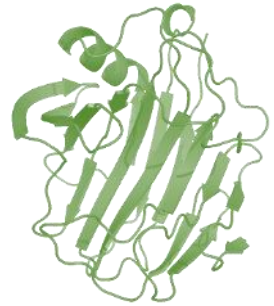
Polyethylene terephthalate (**PET**):
100 hrs → 15 hrs



`esterase`

Polyurethane (**PU**):
50 days → 20 days





`cellulase`

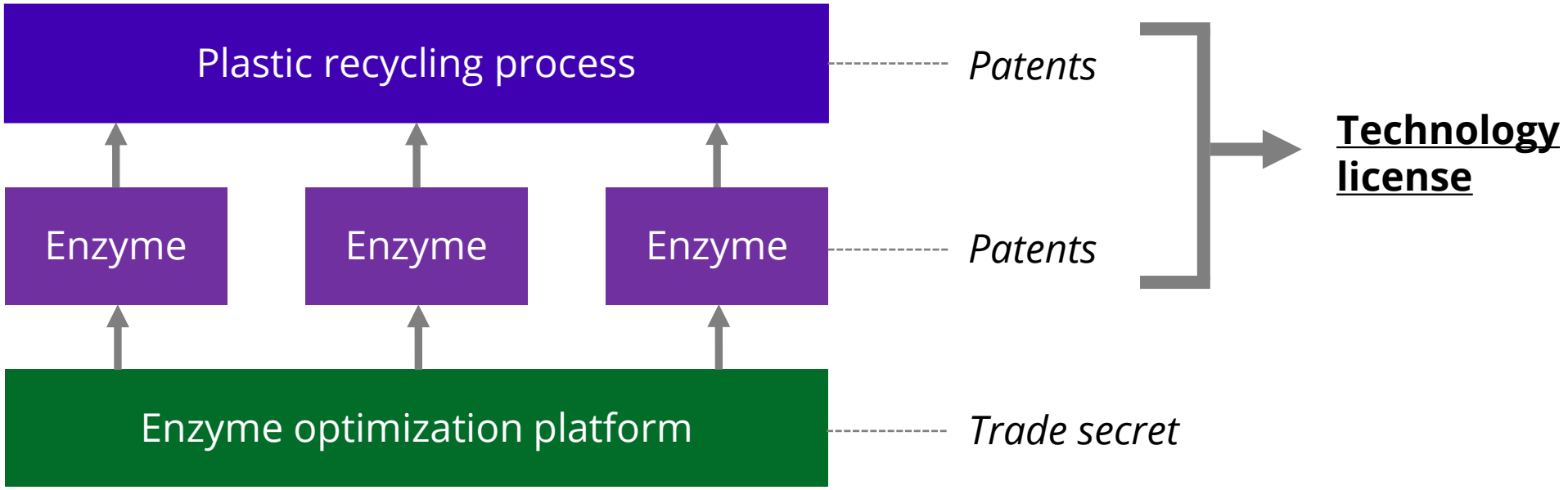
Cellulose: first trials ongoing

Market Beachhead

Focus on enzymatic recycling of PET:

Global PET market

IP strategy: patenting + trade secrets



Commercialization

Business model: technology licensing

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Process license

Enzymes (bulk)

Clients:
- plastic recyclers
- plastic producers
- chemicals

Capital investment

Plant operation

Commercialization

Industrial partnerships → tech licensing

1 First strategic partnerships

Joint prototyping, verify parameters

2 Industrial scaling in 2023 - 2024

Verify tech up to 10-tonne batches

3 Revenue growth from 2025

Technology license + enzyme sales

Commercialization

Interest from industry players:

Finland's leading recycling player

fortum

One of the largest recyclers in Sweden

RAGN SELLS

The leading global cosmetics producer

L'ORÉAL

The largest chemicals producer in the world

BASF

Leading Japanese diversified multinational

Sumitomo

Swedish clothing giant

H&M

Financing

Investor interest for seed funding:

Multidisciplinary team based in Riga

Andrii Shekhirev

Cross-functional leadership

M.Sc. International Business & Finance

Krista Belajevskova

Partnerships, impact assessment

B.Sc. Environmental Science

Aleksejs Kolpakovs

Business development

M.Sc. Innovation Management

Janis Liepins

Microbial growth and metabolism

Ph.D. Microbiology & Biotechnology

Filips Oleskovs

Heterologous protein production

M.Sc. Biotechnology & Molecular Biology

BEAMLINE ACCELERATOR

Buildit

UNIVERSITY OF LATVIA

DIGICIRC

LIAA

ClimAccelerator Baltics & Slovakia

PLUGANDPLAY

CREATIVE DESTRUCTION LAB

BIOCATALYST FOUNDATION

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H1 2023 enzyme engineering + optimization

H2 2023 demos + first industrial partnerships

2024 tech scale-up, additional plastic types

2025 Industrial scale, first recurring revenue

Get in touch: hello@enzymity.com