

Purifying wastewater with a smart catalyst

Dr. Fajer Mushtaq
CEO & Co-founder, Oxyle AG



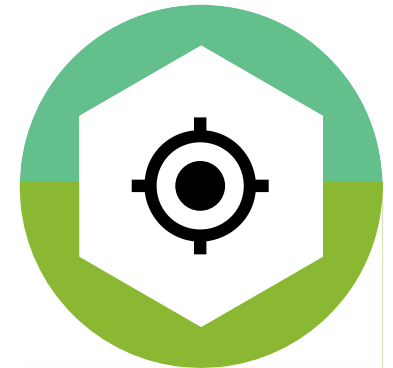


Our Vision



To be world leaders in
protecting the health of
our bodies of water.

Our Mission



Eliminate micropollutants
at their source with our
advanced technology.



Micropollutants

Pharmaceuticals
Hormones
Cosmetics
Insecticides
Chemicals



Non-biodegradable
Bioactive
Persistent



Infertility
Carcinogenic
Toxic

The Guardian
The 'forever chemicals' fueling a public health crisis in drinking water
PUBLISHED FEB 03 2020 • 10:00 GMT

SWI swissinfo.ch
CHLOROTHALONIL
Banned pesticide found in Swiss drinking water
PUBLISHED FEB 06 2020 • 12:00

NATIONAL REPORT
Swiss groundwater quality threatened by pollution
PUBLISHED AUG 15 2019 • 10:58

CNBC
US drinking water widely contaminated with 'forever chemicals': Report
PUBLISHED JAN 22 2020 • 06:34

INTERESTING ENGINEERING
Chemicals in the Environment Could Be Reducing Sperm Count Significantly
The meta-analysis shows that the total sperm count in the Western world had fallen by 59% between 1973 and 2011.
PUBLISHED FEB 27 2021

AXIOS
Falling sperm counts could threaten the human race
PUBLISHED FEB 24 2021

PFAS cost to EEA health estimated at up to €84bn – report
28 March 2019
Nordic Council of Ministers project looks at workers and general population

Micropollutants

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New stringent discharge regulations



Industries, wastewater treatment plants



Lack of effective treatments



Incomplete pollutant removal & Environmental release



New advanced wastewater treatment market:

> €100 Billion, CAGR: >12%



Oxyle's technology



Our wastewater treatment technology



Modular reactors



Novel nanoporous catalysts activated by clean energy



Sheets



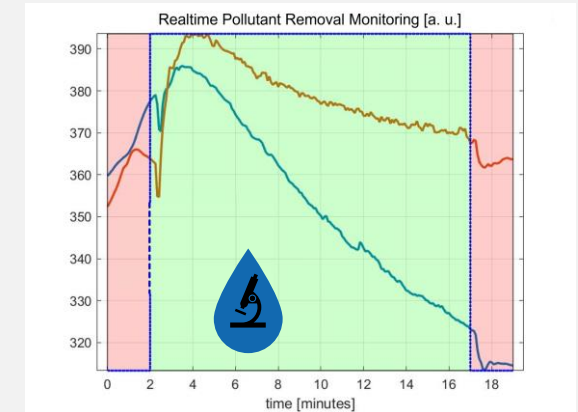
Pellets



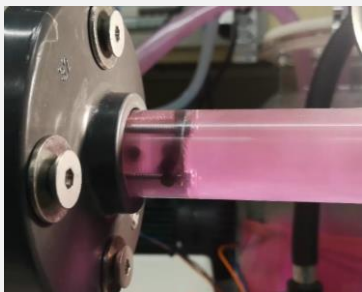
Foams



AI-driven real-time analytics

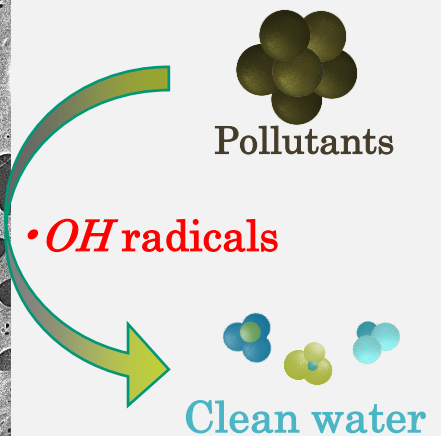
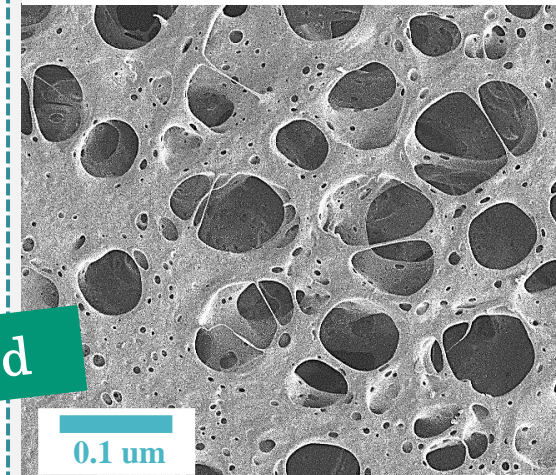


Clean energy activated catalysts



2 Patents Filed

Catalytic oxidation-driven treatment



On-site paid pilot at a Swiss municipal wastewater treatment plant

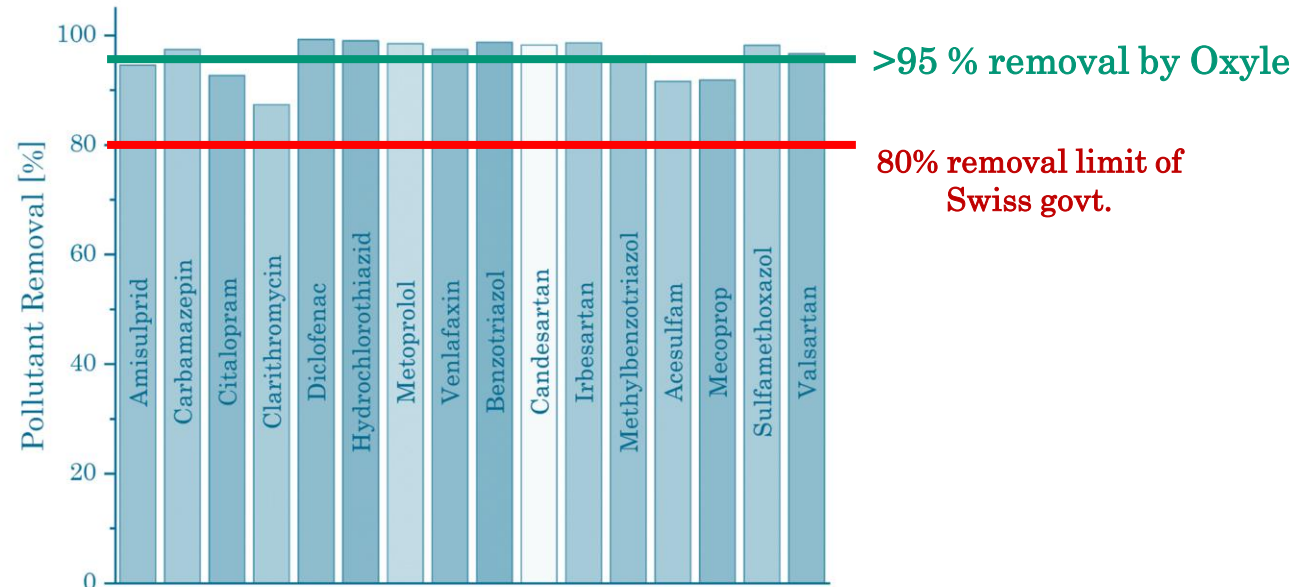


Goal:

Remove 80% of micropollutants from their effluent → comply with *Swiss Water Act, 2014*

Results:

- ✓ >96% removal of all micropollutants found in WWTP's effluent
- ✓ Complying with Swiss govt. regulations



Oxyle's prototype



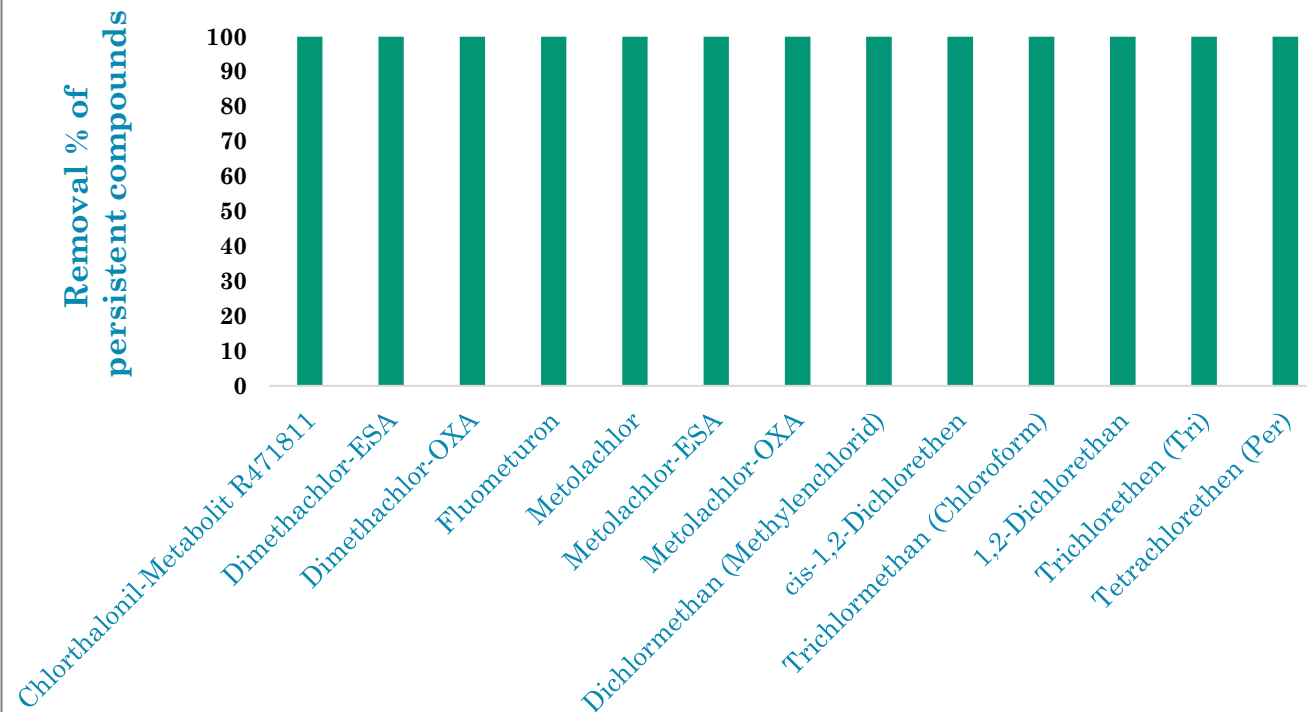
PFAS contaminated groundwater treatment pilot

Goal: Remove total PFAS from groundwater by >80%, Bonus: target pesticides and anilines during treatment as well.

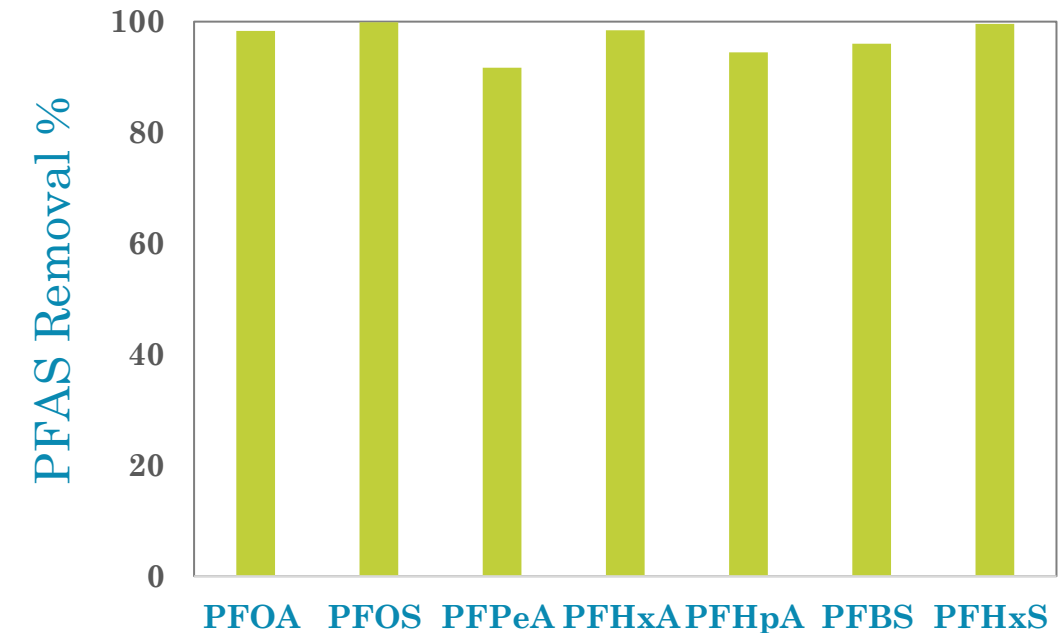
Results:

- ✓ 97% removal of total PFAS from contaminated groundwater to >1 ng/L (detection limit)
- ✓ Complete removal of pesticides, anilines, and VOCs as well

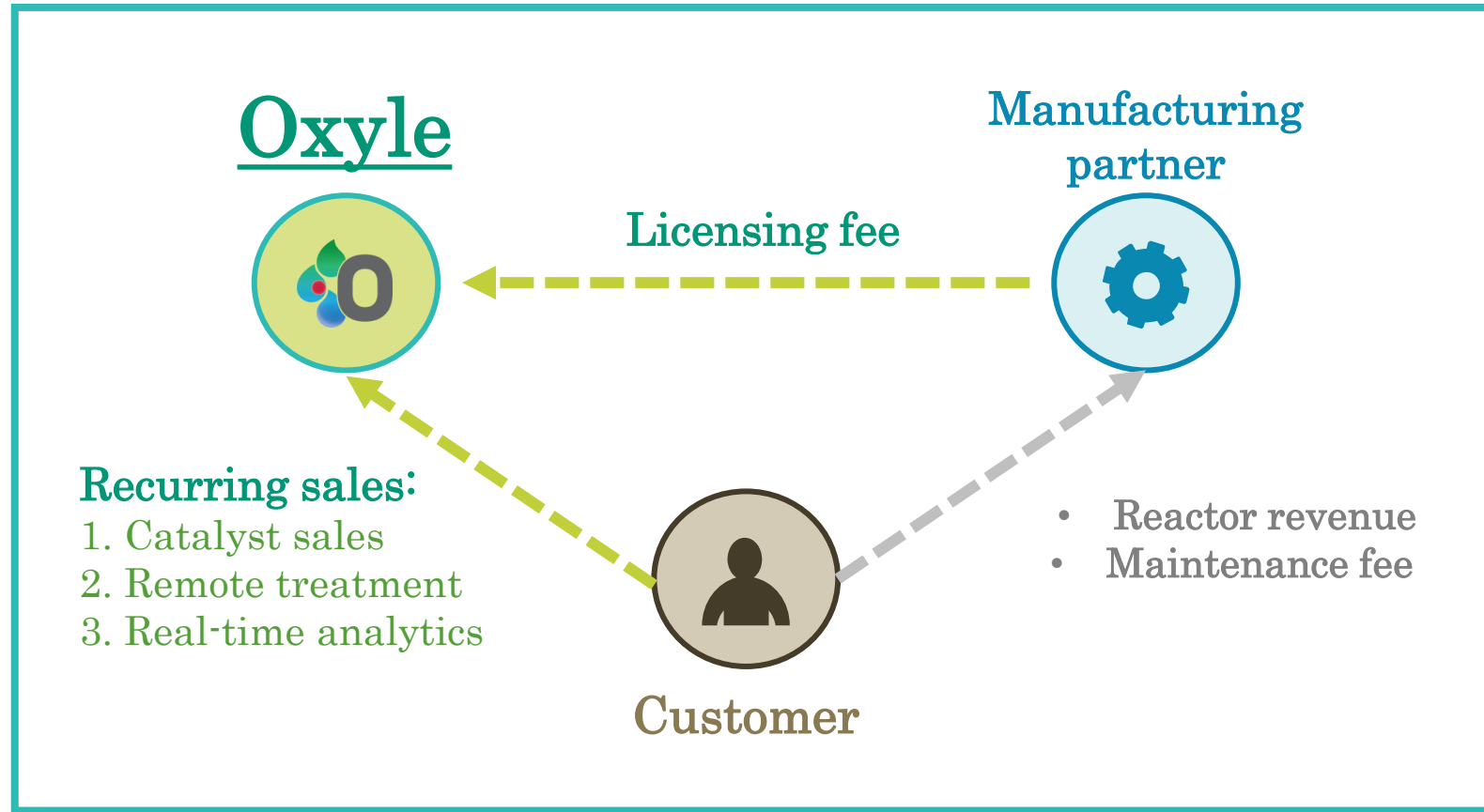
Groundwater treatment results



Groundwater treatment data



Business model





Oxyle's revenue streams

Our product & services






1. Wastewater treatment reactor

-  Produced & installed by our manufacturing partner (MFP).
-  Oxyle gets licensing fee from MFP.






3. Water analytics

-  Real-time water quality monitoring provided by Oxyle.
-  Data analytics provided on cloud.
-  Recurring analytics services.



2. Oxyle's catalyst

-  Production managed by Oxyle.
-  Replaced during regular maintenance visits.
-  Recurring catalyst sales for Oxyle.

>10 pilots



4.1 M€



140 M€ revenue: 2026



3 → 16
2020 → 2022





Our team



Team



Dr. Fajer Mushtaq
CEO, Co-founder

- 11y wastewater treatment
- PhD, advanced catalysts
- Business development
- Financial management
- Customer management



Dr. Silvan Stauffert
CTO, Co-founder

- 13y micro- and nanotech
- PhD, micro & nanosystems
- Systems & processes
- Technical implementation
- Supply chain.



Dr. Akram Rahimi
Materials & app. eng.

- 11y micro- and nanotech
- PhD, Nanochemistry
- Catalyst scaleup
- AOP Applications



Dr. Farrokh Baheri
Prod. Dev.

- 11y micro- & nanotech
- PhD, Mech. Eng.
- Prod. dev. batch design
- Industrialisation
- Prod. specifications



Raphael Kaeslin
Prod. Dev.

- 6y Mech. Eng.
- MSc. Mech. Eng.
- Design & simulations
- Prod. dev. flow-through
- Prod. specifications



Dr. Roman Lyubimenko
Water analysis

- 7y Water treatment
- PhD, water analytics
- Water quality analysis
- Reaction kinetics
- Analytics platform



Anik Dutta
Process dev.

- 12y water eng.
- Masters in Water Eng.
- Pilot implementation
- CAPEX/OPEX estimations
- TEA and LCA



Liudmyla Feurstein
Marketing & Strategy

- 17y Marketing
- Market research
- Business strategy
- Marketing management



Dr. Marcus Hoop
Customer Outreach

- 12y, Strategy
- Pricing strategy
- Client acquisition
- Logistics



Ramune Bauer
HR Manager

- 14+ y HR exp.
- Recruiting
- Admin
- Finances

Advisors



Christoph Heidelbergberger

- 25+y Startup growth
- Business dev.
- Market entry
- Team dev.



Pascal Dutheil

- 15+y SME financing
- Business plan
- Financial advisor
- Investor relations



Virginie Kolovos

- 25+y Market strategy
- B2B customer acquisition
- Commercialization strategy
- Market segmentation & growth



Carlos Fernandez-Jauregui

- 35+y Wastewater industry
- Director of WASA-GN
- G2M strategy
- Certifications & qualifications
- Product development



Rik Segers

- 20+y water industry.
- Business strategy
- Partnerships & Pilots
- Customer acquisition



Cynthia Nadal

- 20+y Fintech VC Investor
- Board dev. & governance
- Financial planning
- C-level leadership



Pol Bidminger

- Cleantech expert
- Sustainability biz dev
- Comm. strategy
- Customer outreach



Prof. Markus Boller

- 35+y wastewater industry
- Process dev.
- Industrial engineering
- Customer contact



Prof. Bradley Nelson

- Serial entrepreneur
- 30+y Mech. Eng. expert
- Growth strategy
- Financial advisor



Prof. Salvador Panè

- 20+y chemistry
- Nanomaterials expert
- Catalysis expert
- Tech. advisor



Thank you for your attention!

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