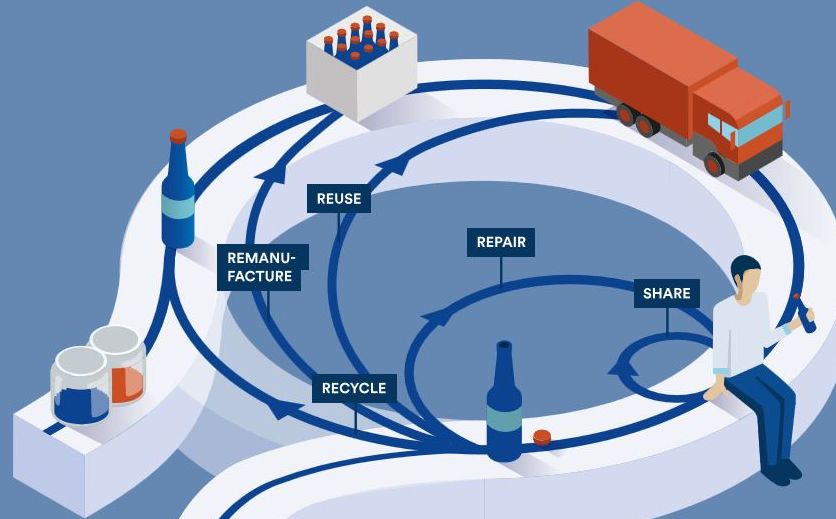


razorlabs

Empowering Organizations With Artificial Intelligence



How does AI contribute to a Circular Economy?



Asset Utilization

Through Predictive
Maintenance and Process
Optimization

Optimization

of circular logistics
infrastructure and supply chain
management

Waste Reduction

by inspecting quality



Our Mission

Razor Labs (TASE:RZR) unlocks significant value for Industrial companies with tailor made AI projects utilizing Deep Learning Neural Networks and existing data.



Improved production



Increased safety



Higher sustainability

2016

Year
Founded

55+

Projects
Completed

2

Offices:
Israel & Australia



CB - Insights
Top 100 AI



Selected Clients

Utilities



Natural Resources



Manufacturing





How does AI contribute to a Circular Economy?

1. By combining real-time and historical data from products and users, AI can help increase product circulation and **asset utilization** through predictive maintenance.





Car Dumper Predictive Maintenance

Challenge:

Car Dumper incurs high cost in lost production due to unscheduled downtime.

Solution:

- ◀ Utilize 2 years of existing 2500 sensors (620GB).
- ◀ DataMind Neural Network analysis, with Explainability.
- ◀ Schedule preventative maintenance only as-needed.

Value:

- ◀ **ROI time is <2 months**
- ◀ Proven ability to accurately predict unscheduled downtime up to **10 days in advance**.
- ◀ **Extra ~500,000 tons/year** after first project iteration.

93% Accuracy

(93% F1 Score, 92% Detection Rate,
6% False Alarm Rate)





How does AI contribute to a Circular Economy?

2. AI can help build and optimize the **circular logistics infrastructure and supply chain management**, by allocating the resources in an efficient manner, recycling materials and improving the processes to sort and disassemble products.





Use case: Optimization of Transport Allocation

Challenge

Optimizing and automating the schedule of Electric Corporation logistical tasks. The schedulers have in-depth unique and undocumented knowledge.

Solution

- ◀ Mapping and formulating the constraints
- ◀ Scheduling system based on a genetic algorithm & Neural Networks models applied to historical data
- ◀ Tailored KPIs like minimizing vehicles travel and 3rd-party vendor expenses

Value

- ◀ **Automating** manual work while keeping the SMEs involved
- ◀ **Flexible** KPIs
- ◀ **Minimizing** delegation costs to a third party vendor
- ◀ **Efficient utilization** of strengths of drivers according to their license and experience

Logistics and Transportation Schedule Optimization





How does AI contribute to a Circular Economy?

3. In order to control **quality** of end products and **reduce waste**, AI can detect and alert to defects and support data-driven decision making on how best to utilize somewhat defective products.





Use Case: Visual Inspection of Aluminium Coil

Challenge

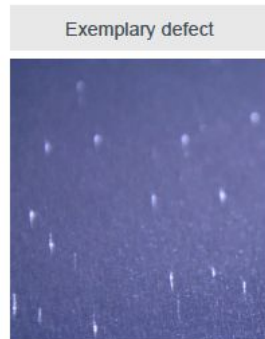
Currently rule-based algorithms, which detect and classify defects, are not accurate enough and the predefined classes are not satisfying.

Solution

Razor Labs redefined the classes according to their visual features and patterns and validated with SMEs

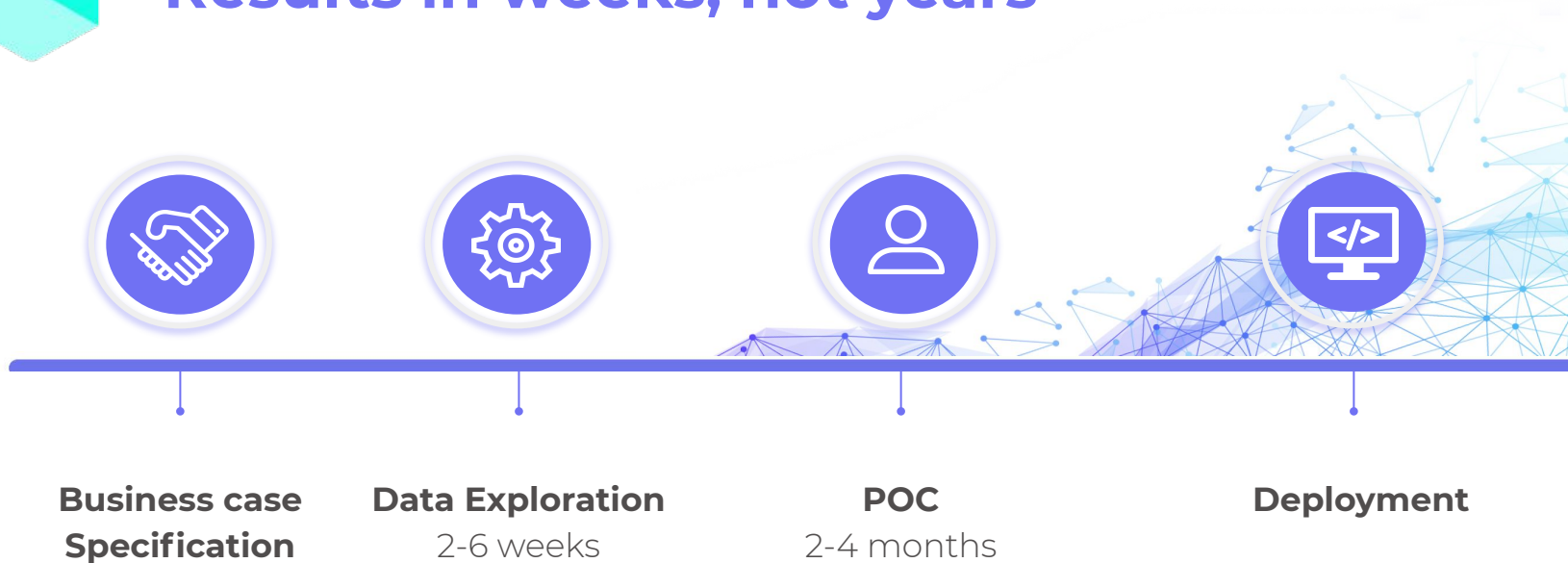
Value

- ◀ Improved quality assessment and fitting coils to clients' needs and resilience to defects
- ◀ Identifying all defects at milliseconds speed automatically





Results in weeks, not years





Why Razor Labs?

- **Solving** highly **complex** and unique challenges that COTS can't solve.
- **Existing data and sensors** - we don't require any new hardware installations.
- **Explainability** module for our Deep Neural Networks- What & Why.
- **One-stop-shop**, from KPI to production.
- We **tailor solutions**, fitted to complement each client's needs, data & KPIs.
- **Flexible deployment & integration**: on-premises or cloud based or on edge.
- Able to work with a **unlimited data** from various sensors.
- **Tier-1** references worldwide.



Thank You

