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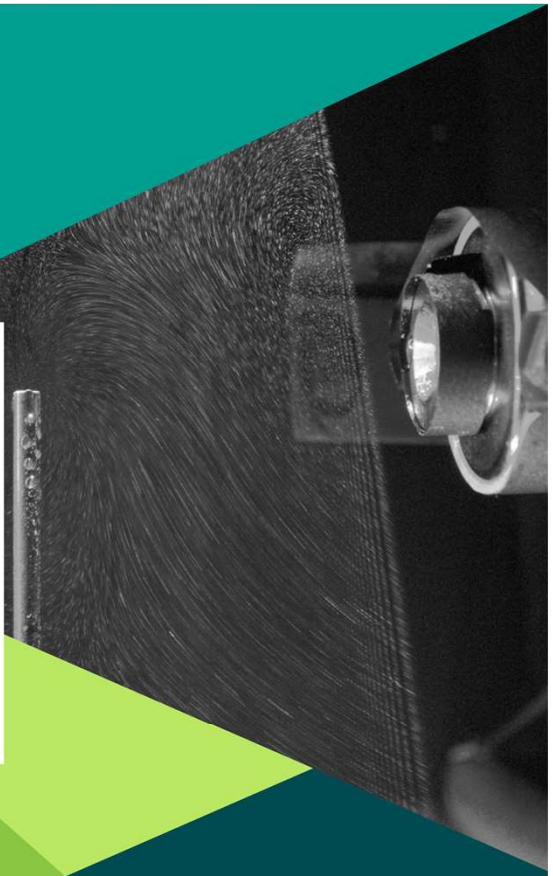
Applying coatings of the future



COMPANY INTRODUCTION

VISION

We envision to make every surface functional. “Just like nature has been doing it, only better.”

MISSION

Qlayers’ technology applies the industrial coatings of the future.

AMBITION

First, Qlayers will automate industrial coating processes worldwide. Ultimately Qlayers will deliver functional surfaces as a service.

INNOVATION

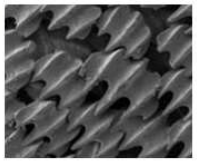
Qlayers is developing an automated robotic system that can apply coatings in a safe, very efficient and controlled way. Applying accurate layers of coating will reduce the maintenance period and costs.
With our printing technology we can apply 'sharkskin' riblets on large industrial surfaces to make them more energy efficient.

MARKET

Qlayers first markets are storage tanks and wind turbine blades. We also coated pipes in the past.

BUSINESS MODEL

Leasing a turnkey solution including maintenance service to coating contractors and manufacturers for a fixed monthly rate.



WE WANT TO SOLVE THIS PROBLEM

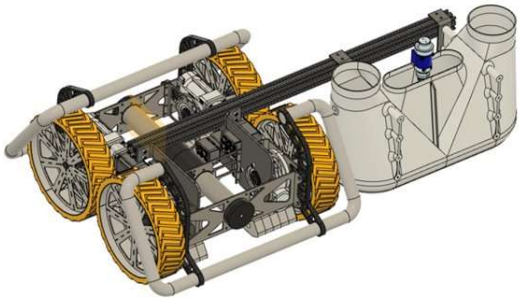
Current coating processes of storage tanks are executed manually, resulting in an unsafe, low quality and unreliable process.

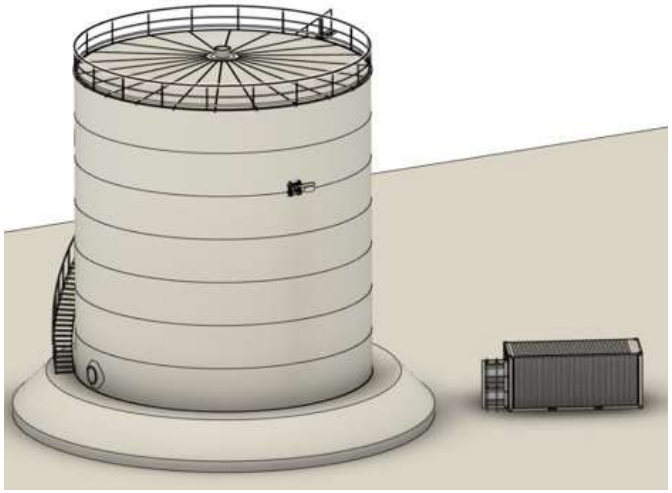
COATING STORAGE TANKS

Our robot makes coating processes of tanks safe, high quality and reliable.

- 85% reduction of people working on heights
- Faster than 6 painters
- Transfer efficiency 90%
- Accurate layer thickness control

FIRST CONCEPT IN 2019





COMMERCIAL ASSIGNMENTS

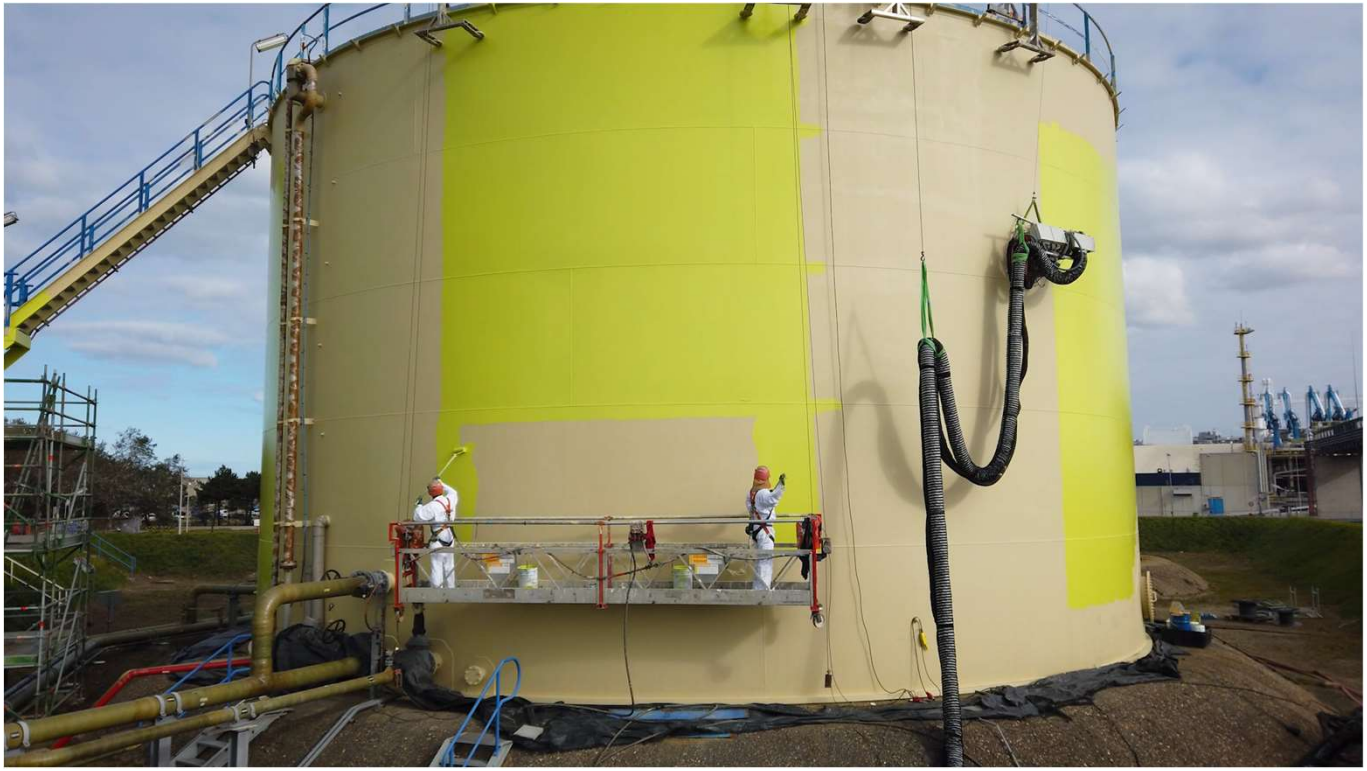
Maasvlakte Olie Terminal

Coated at a tank of 69m diameter in July 2020

coated two tanks at MOT, Rotterdam in September/October 2020


VAN
DER ENDE
steel protection innovators

ROBOTIC VS MANUAL PROCESS



TECHNOLOGY ADVANTAGES

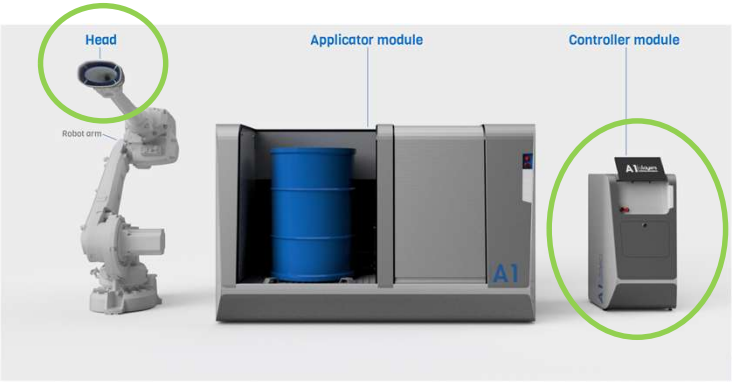
Manual Coating

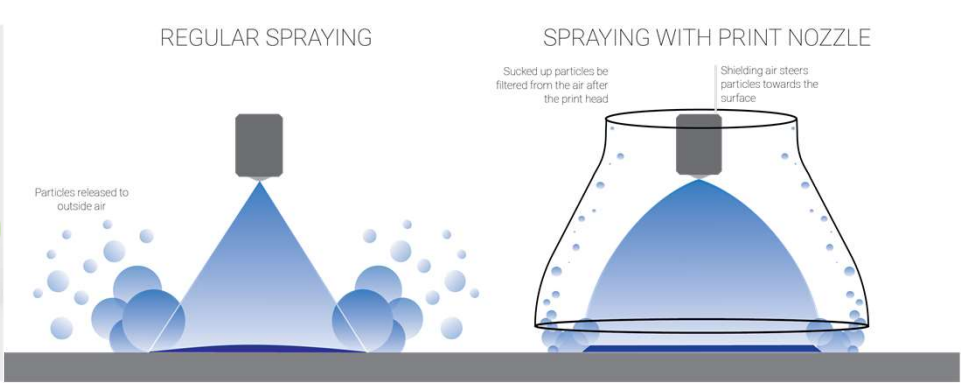
The 10Q Robot

	Manual Coating	The 10Q Robot
Percision	Manual coating method is always inconsistent, with no control over layer thickness and less adhesion to substrate	Automated quality control on every position All layer thicknesses are possible Transfer efficiency up to 90%
Safety	People working on unsafe heights	Reduce people working on heights with 85%
Speed	Inconsistent speed of 30m2/hour for one person using scaffolding	Consistent speed of 200 m2/hour per Qrobot (faster than 6 painters)
Environment	Spray painting results in overspray which is bad for the environment	The unique technology resulting in an environmentally friendly process without over spray

HOW IT WORKS

- A report is produced that shows the layer thickness on every position of the tank
- The controls are designed to be intuitive for operation by a crew not necessarily experienced to work with (semi-) automated equipment





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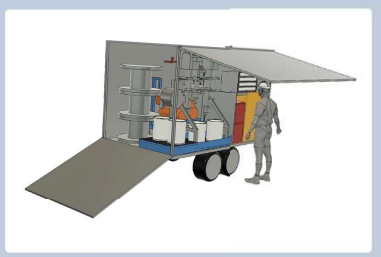
SYSTEMS SETUP



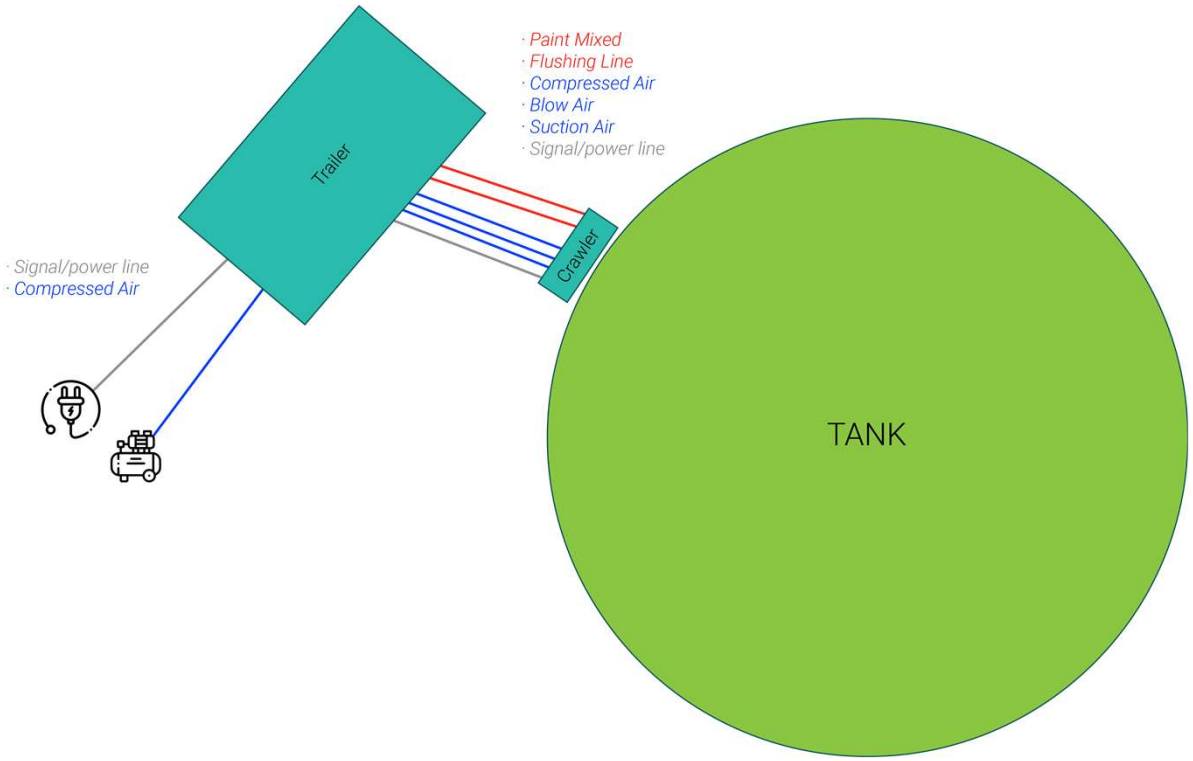
Trailer

- 2K pump with flushing pump
- Paint mixing block
- Paint fume extractor pump and filter
- Air shielding blower
- Paint tracing system
- Power supply for Crawler
- Crawler interface
- Pump interface
- Paint drums on drip tray
- Fire extinguisher
- Optional: compressor

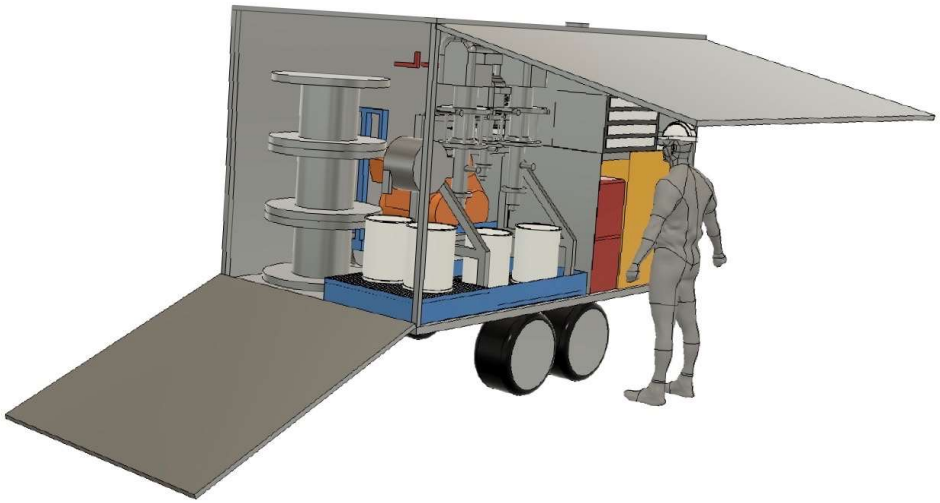
Crawler

- Remote Control
- Drive assemblies
- Magnet package
- Sensor package
- Qlayers' no-overspay hood
- Includes airless spray gun with reversable tip, a paint fume filter, airknives and some spray monitoring sensors

OPERATIONS


· Paint Mixed
· Flushing Line
· Compressed Air
· Blow Air
· Suction Air
· Signal/power line
Trailer
Crawler
· Signal/power line
· Compressed Air
TANK

DELIVERY



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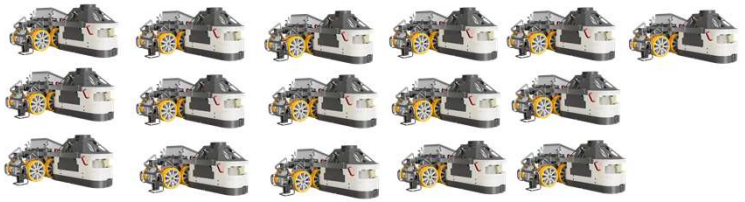
PLAN

	2021	2022
Europe		
North America		
Asia		
Australia		

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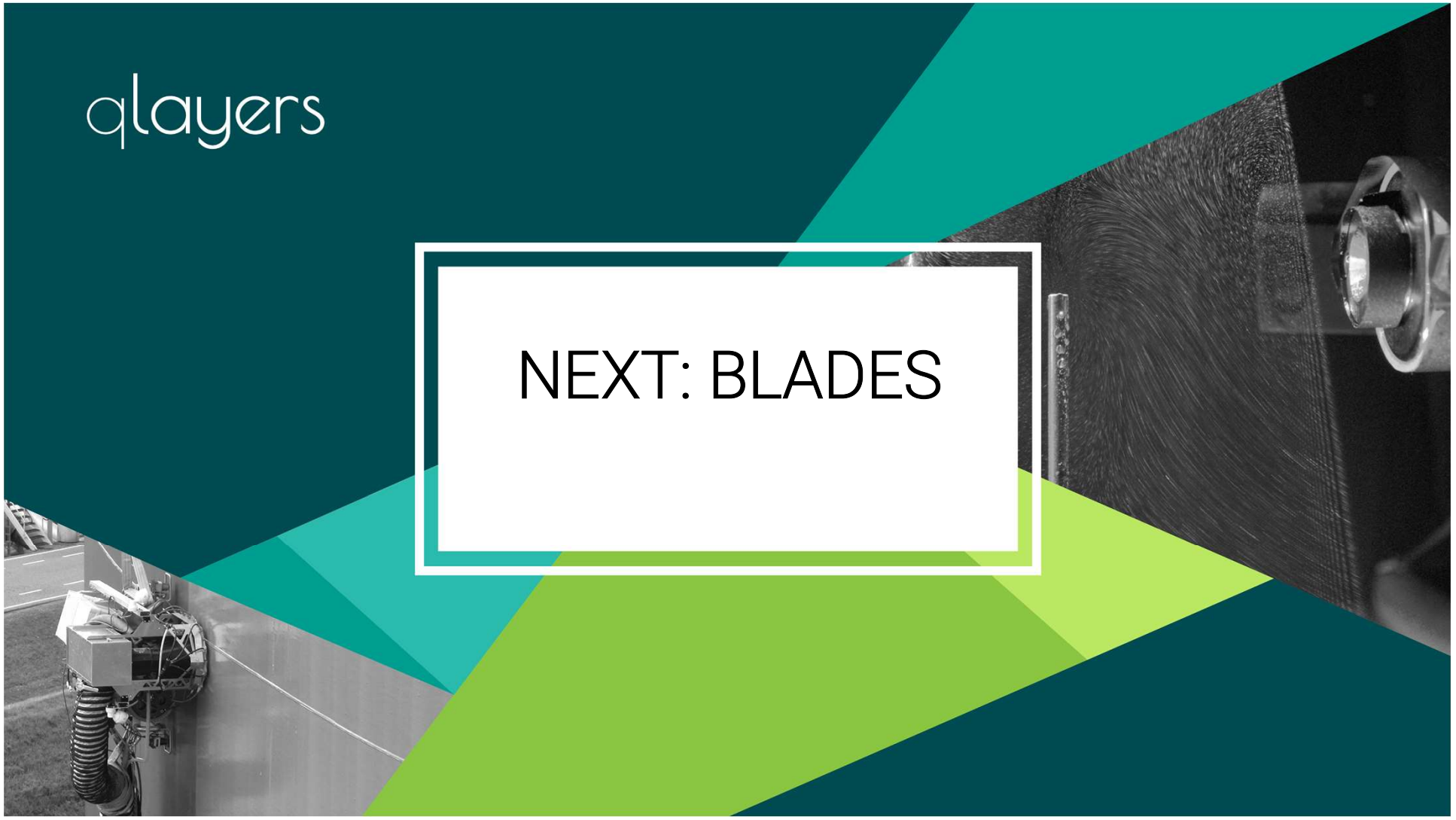
NEXT: BLADES



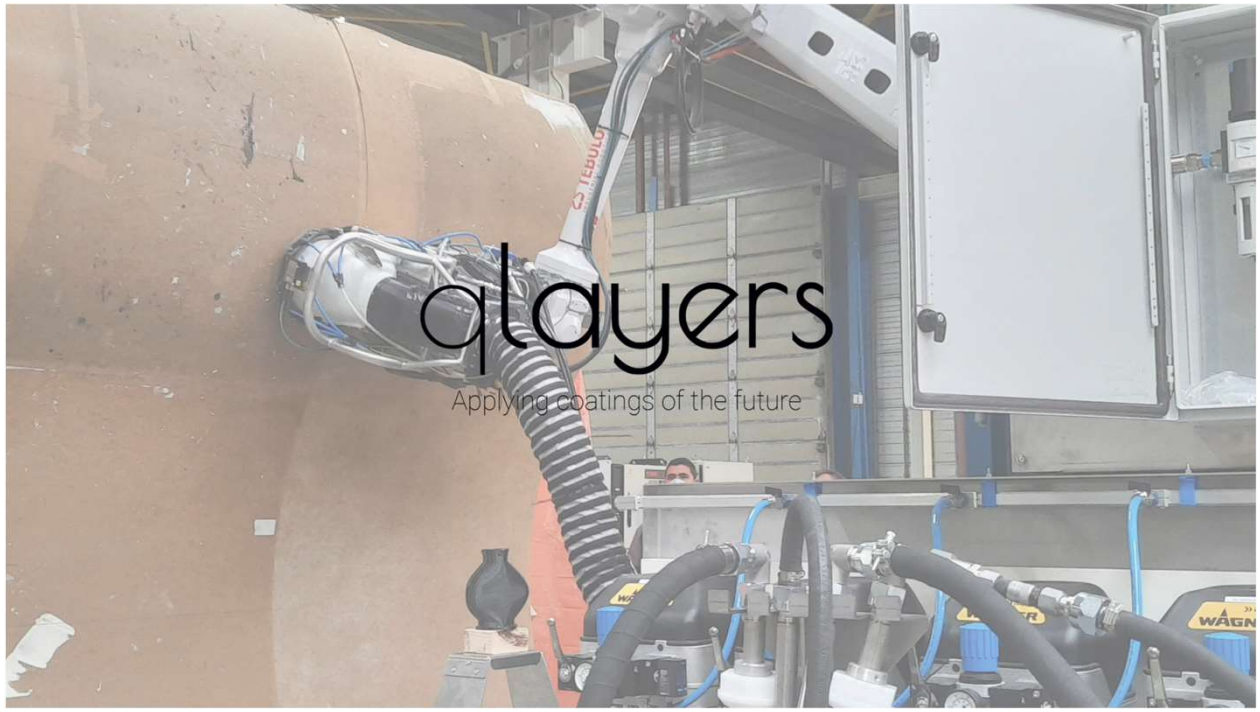
WE WANT TO SOLVE THIS PROBLEM

The current standard coating methods for coating wind turbine blades are airless spraying and painting by roller brush.

Painting by roller brush

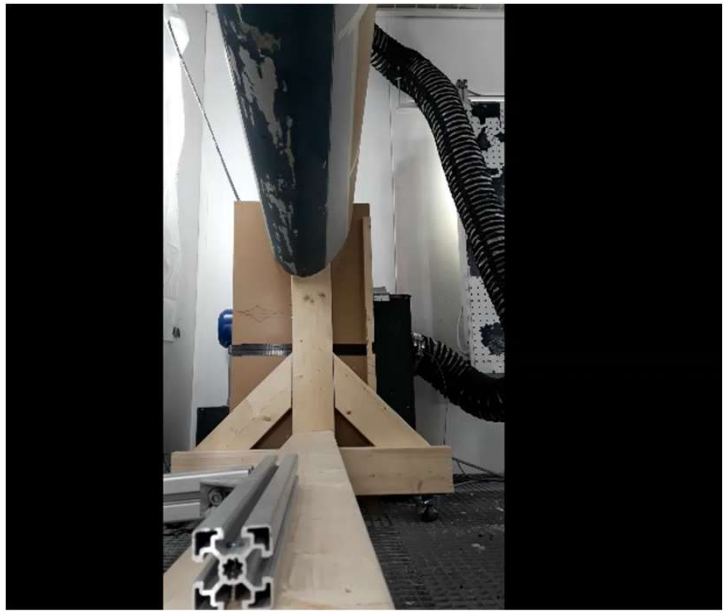
Airless spraying

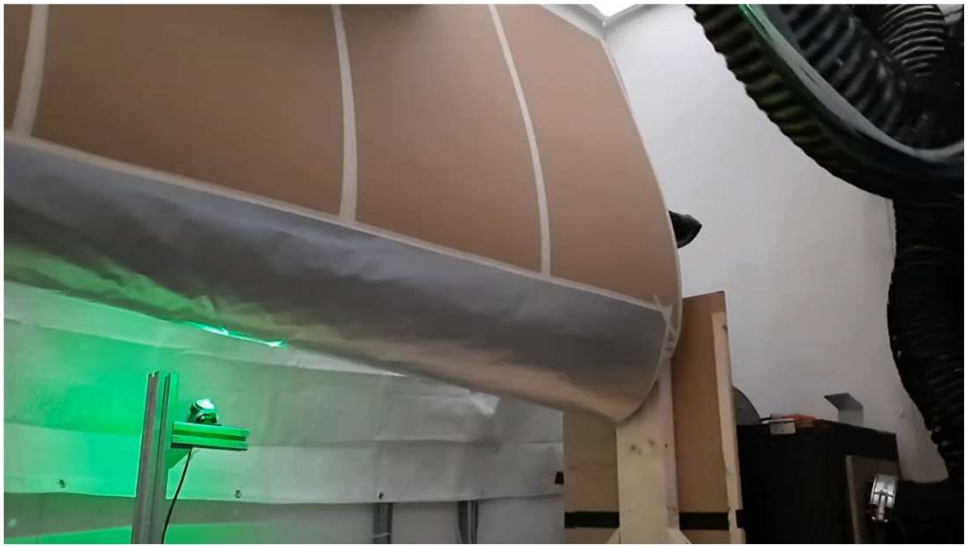
BL8 DEMONSTRATOR



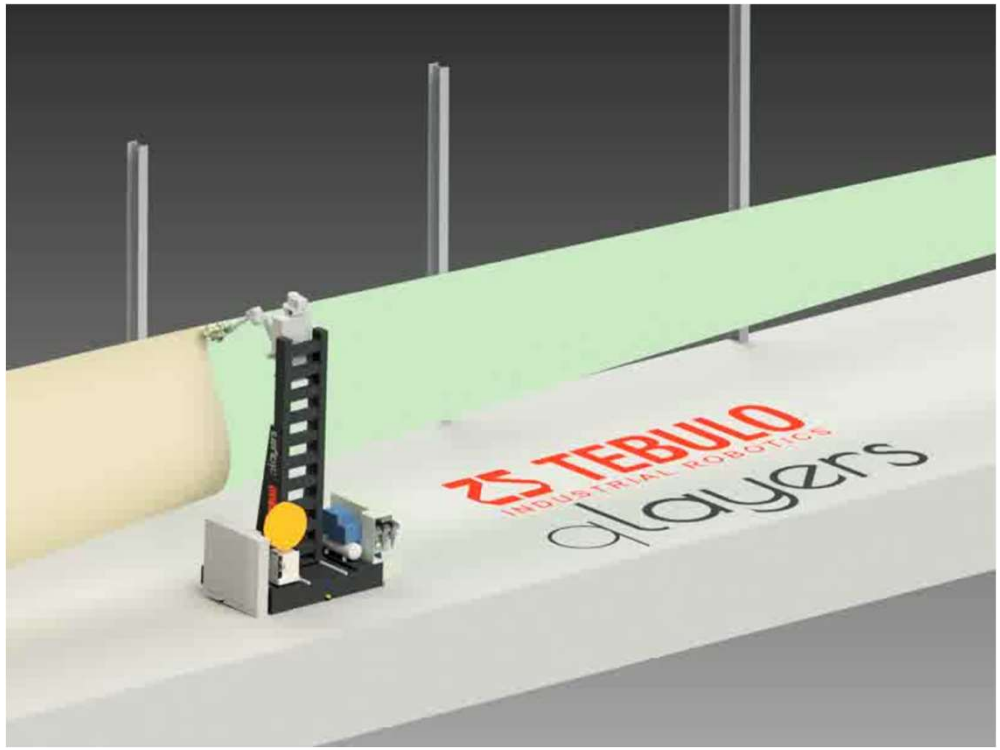
COATING THE EDGES

- Fixed paths 2.5m blade section in spray booth
- Max physical reach (hood-frame) at LE

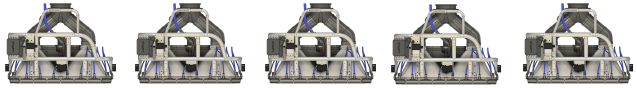




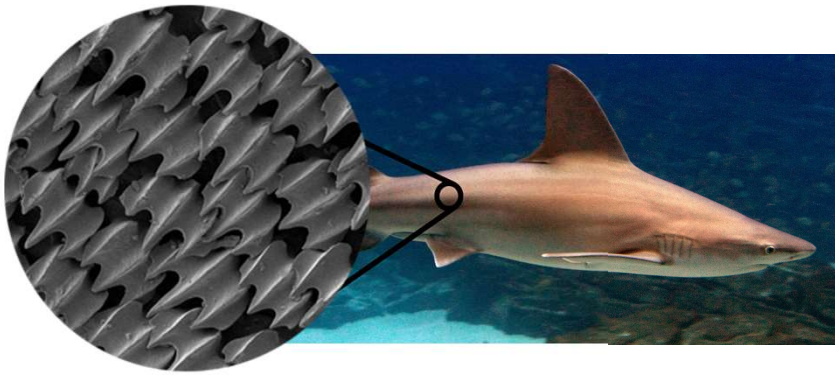
NEXT STEP: COATING BLADES

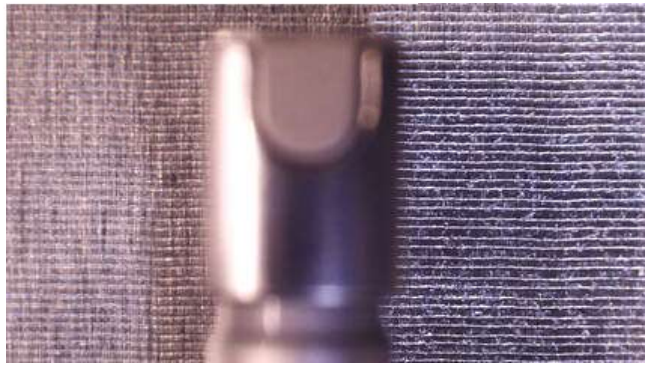


PLAN

	2021	2022
BL8 Demonstrator		
BL8 painting module in fullscale version		

FUNCTIONAL COATINGS



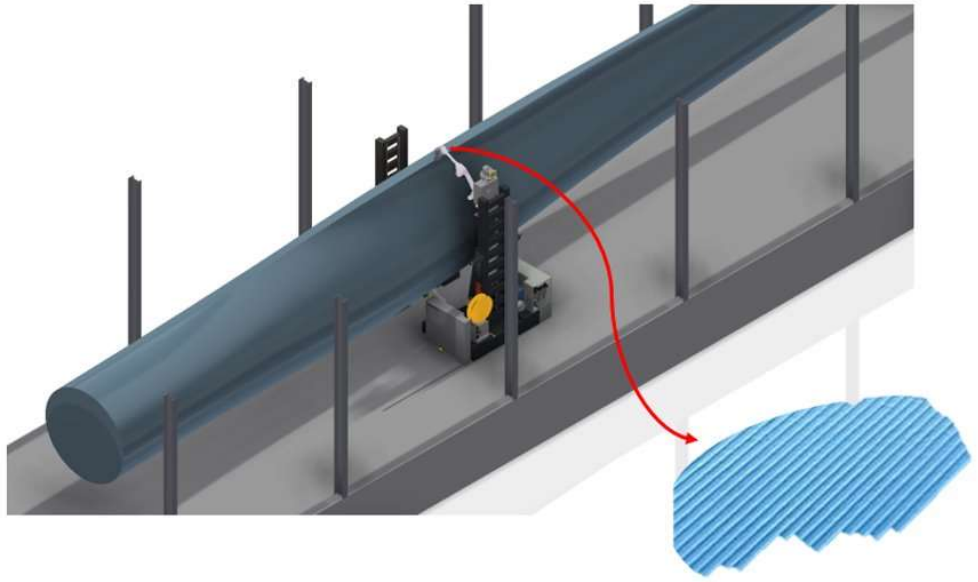


Nature is full of functional coatings. Sharks' skin is covered with denticles which reduce drag with water.

Qlayers has developed a patent pending technique
that can print sharkskin riblets in a cost-efficient and effective way.

ADDING OUR PREMIUM MODULE

Applying functional coatings such as sharkskin microstructures **on wind turbines reduces friction with air with 3-8% which leads to higher energy efficiency.**



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Let's apply the coatings of the future together.

Contact Josefien: +31 641 449 223, josefien@qlayers.com