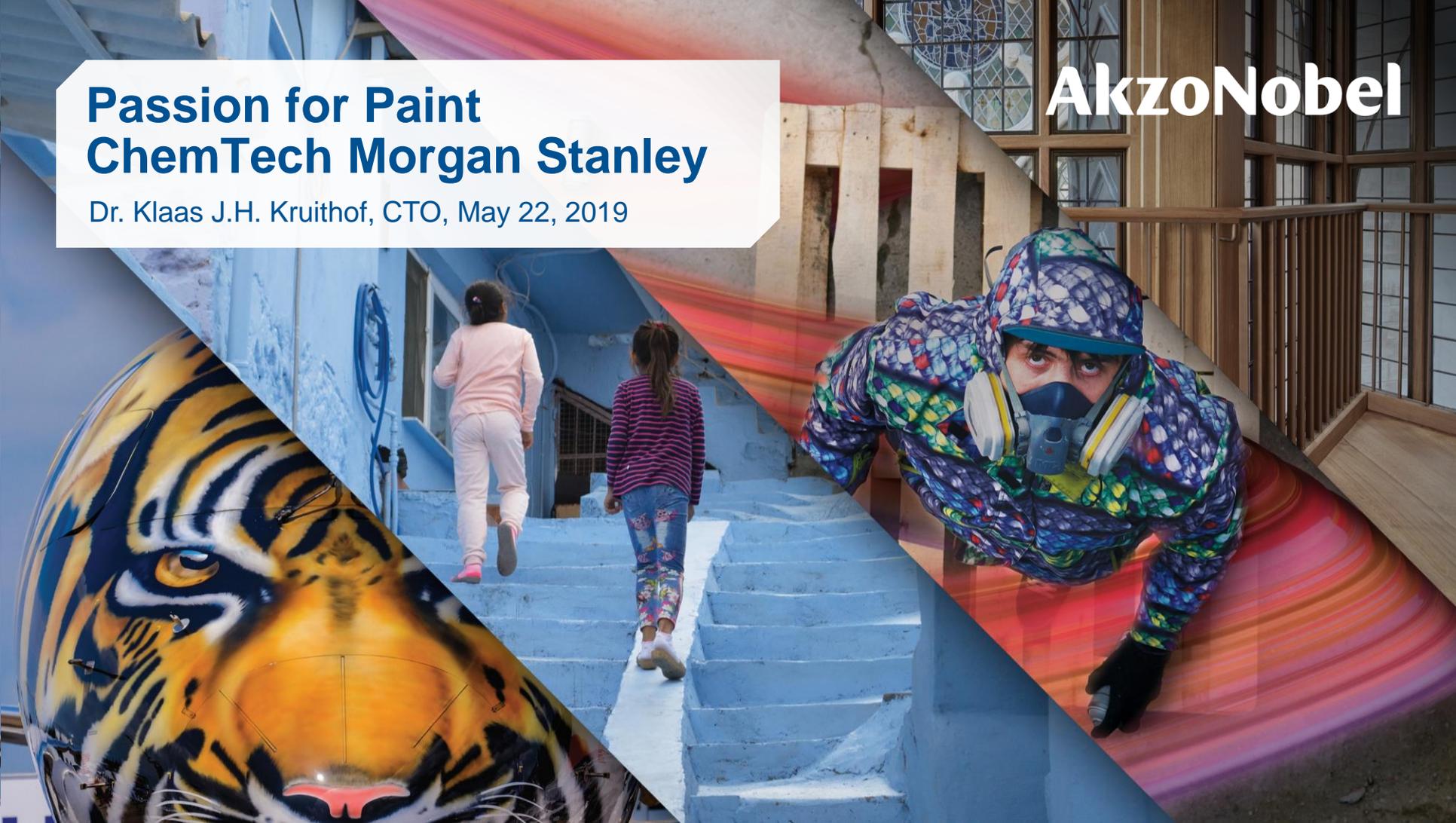


Passion for Paint ChemTech Morgan Stanley

Dr. Klaas J.H. Kruithof, CTO, May 22, 2019

AkzoNobel



Introduction

AkzoNobel



Technology Coordinator
Coatings Group

1994

R&D Director BU Automotive
& Aerospace Coatings

2003

Chief Technology Officer
Paints & Coatings

2017

Changes in the industry



1984

Researcher in R&D
Automotive OEM

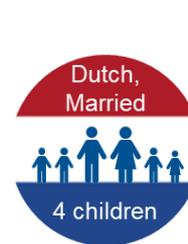
R&D Manager
Automotive B-NL-UK

1998

R&D Director
BU Industrial Coatings

2012

RD&I Director
BA Performance Coatings



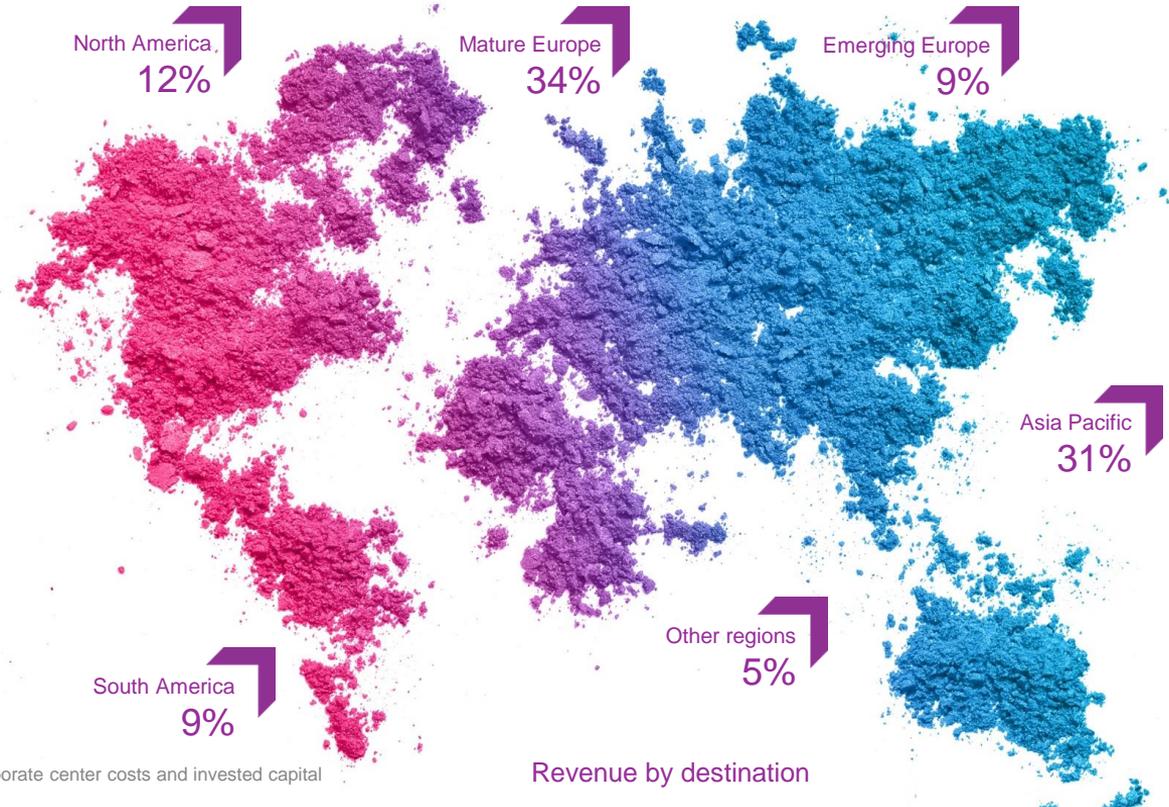
A focused Paints and Coatings company

AkzoNobel

Key brands:



€9.3 bn revenue
€1.0 bn EBITDA
€0.8 bn EBIT
10.6% ROS
12.6% ROI
34,500 employees



All figures are based on year-end 2018, excluding unallocated corporate center costs and invested capital

Our Networked Technology Centers

€1.25 billion

spent on R&D in the last five years

3,000

scientists employed worldwide

3,100+

patents owned by AkzoNobel

70

laboratories globally

5

global technology centers

Felling, UK ~270



AkzoNobel

Shanghai, China ~150



Strongsville, USA ~50



Sassenheim, NL ~370

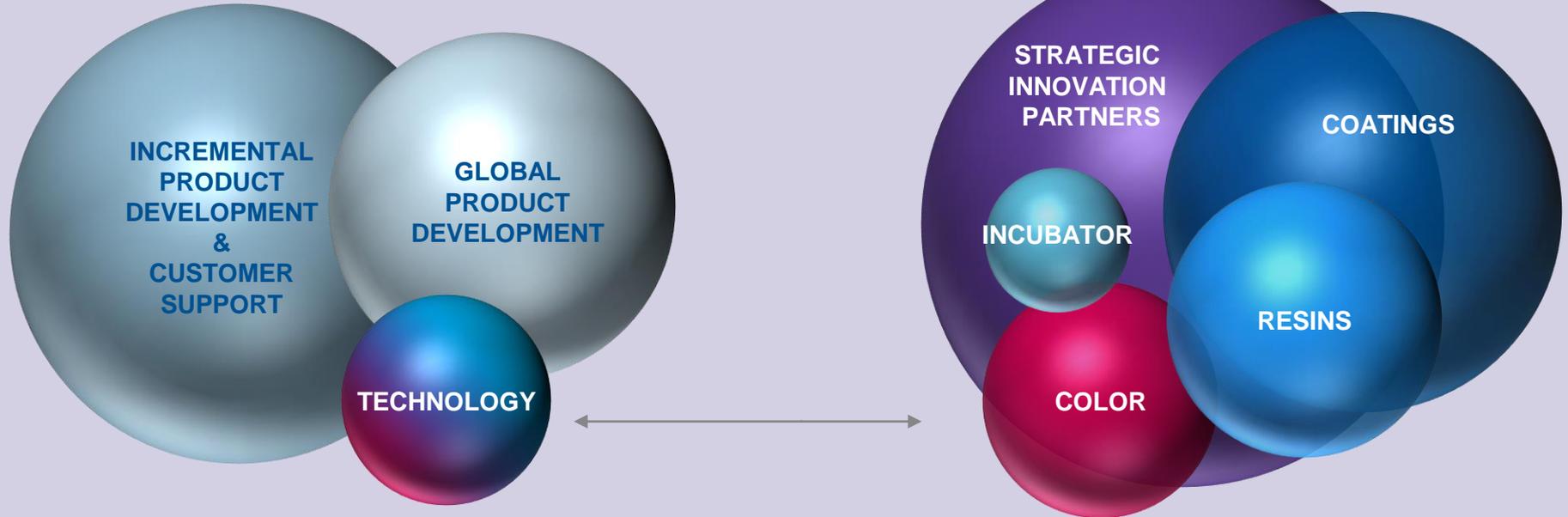


Bangalore, India ~120



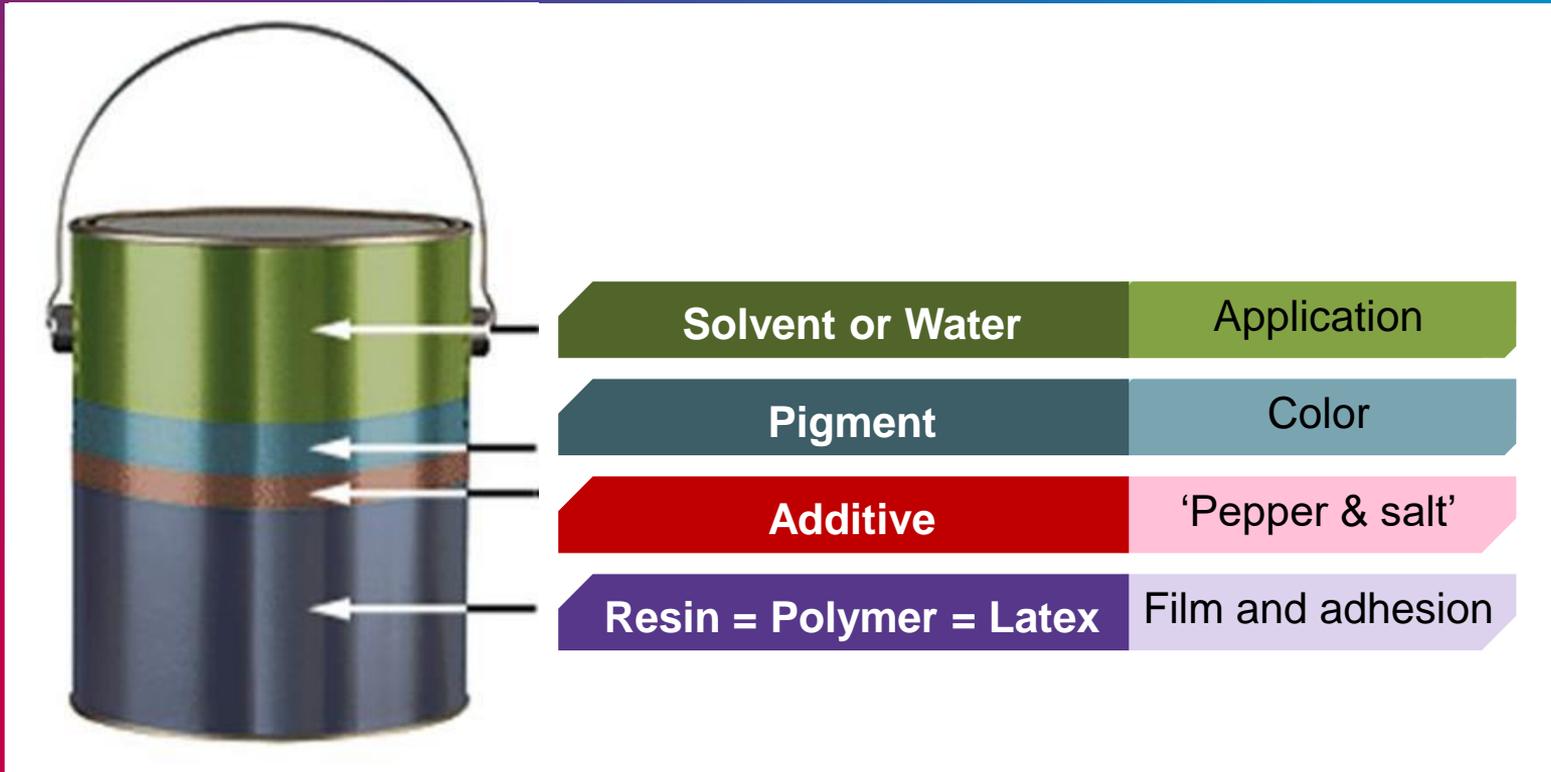
Delivering Innovation by Research & Development

EXECUTIVE COMMITTEE



What is paint and why use it ?

AkzoNobel





AkzoNobel

**Performance
beyond expectation
at the size
of a human
hair**

Coloring the world: Decorative Paints



We color and protect your valuables

AkzoNobel



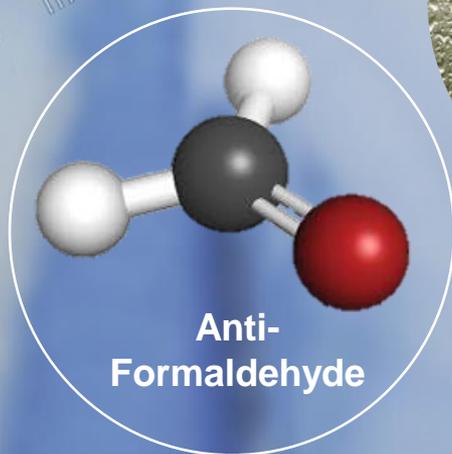
AkzoNobel

BEYOND

Expectation

Functionality beyond Expectation

AkzoNobel



Protecting the world: Intersleek®

1st biocide-free coating for the shipping industry

AkzoNobel



Innovation
Pioneering
slime-release
technology

Sustainability
Carbon credits,
biocide-free

Performance
Long-term
efficiency,
fuel savings

Since 1996
over **5,500**
applications

Over **\$3 billion**
fuel costs &
32 million tons
of CO2 saved

 **International.**

Cleaning interior air: Forest Breath

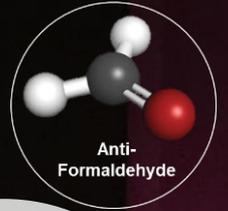
1st bio-based interior wall paint in China

Bio-based with active bamboo ingredient
low-VOC
mould-resistant
anti-bacteria

Captures and purifies harmful air pollutants like formaldehyde



AkzoNobel



Meeting growing demand for sustainable customer solutions



A woman with long red hair, seen from behind, is painting a large, irregular blue shape on a cloudy sky using a roller. She is wearing a white dress with black polka dots and a floral pattern at the bottom. The background shows a beach and the ocean under a bright sky.

BEYOND

Expectation

Imagination

Big Data and Artificial Intelligence

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**Color
development**
to the next
level by A.I.

Data offers
routes to **new
revenue
models**

HTE
High Throughput
Experimentation

Surfaces with
sensors
become **data
generators**

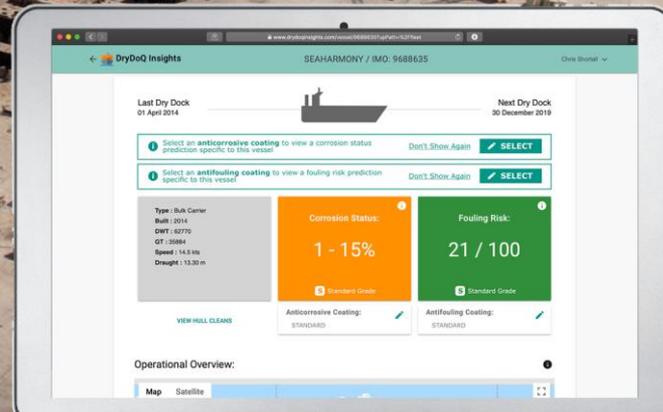
Revenue from data: DryDoq Insight

Big data based predictive tool/application

AkzoNobel

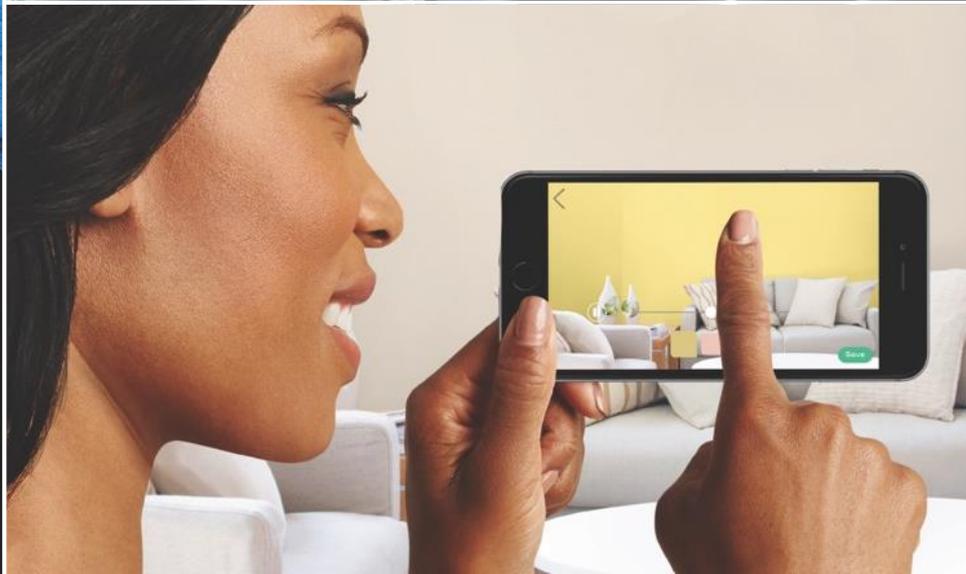
More informed dry-docking decisions

Better performing fleet



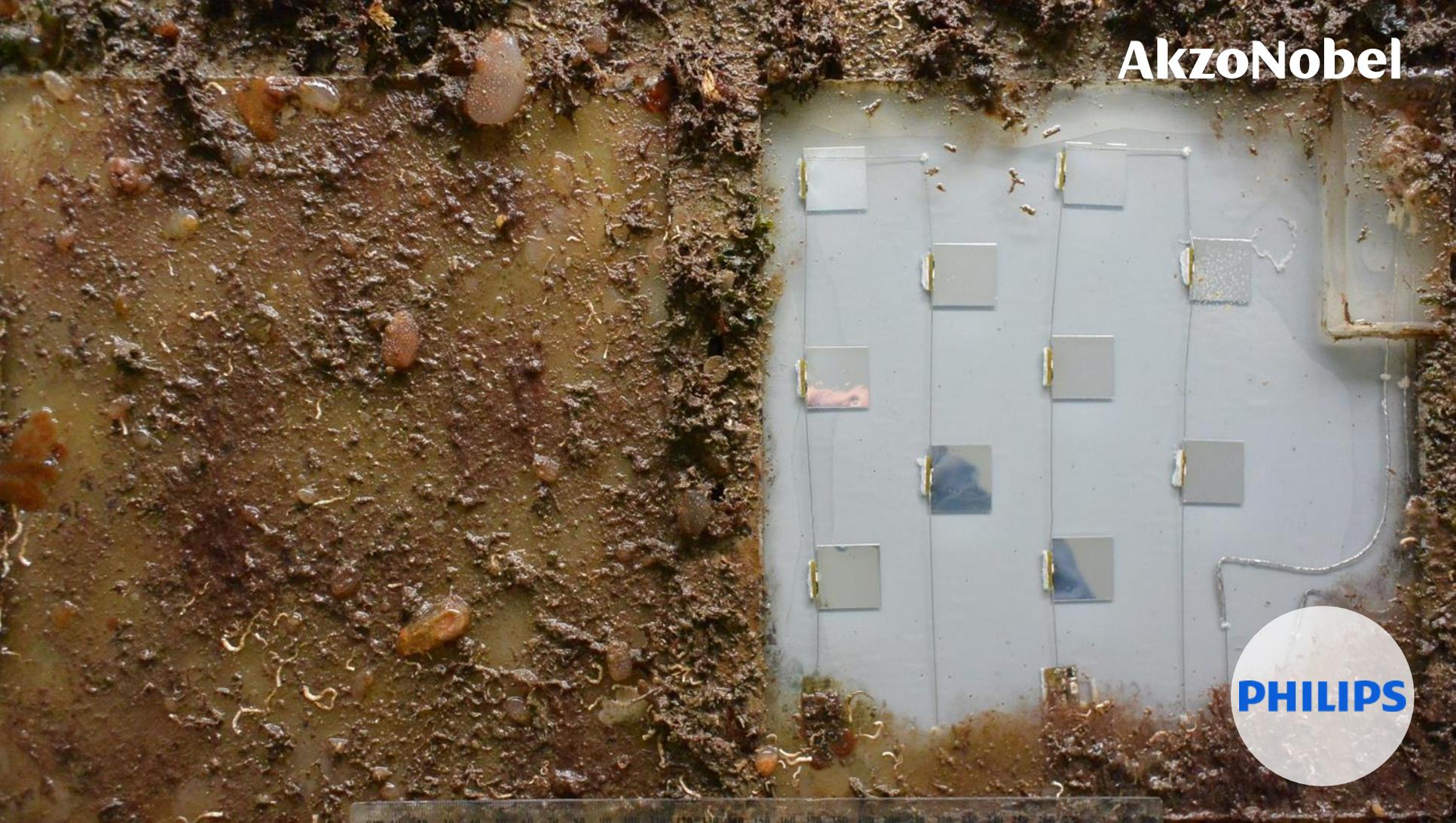


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PHILIPS



A woman with long red hair, seen from behind, is painting a large, irregular blue shape on a cloudy sky using a roller. She is wearing a white dress with black polka dots and a floral pattern at the bottom. The background shows a beach and the ocean under a bright sky.

BEYOND

Expectation

Imagination

Generations

Innovation drives Sustainability

value selling and resource productivity

AkzoNobel

Productivity



Examples:

- ↗ Fast cure / low bake
- ↗ Smart application
- ↗ Cloud-based data

Asset protection



Examples:

- ↗ Anti-corrosion
- ↗ Super durability
- ↗ Digital inspection / service

Surface enhancement



Examples:

- ↗ Colors, effects, haptics
- ↗ Self-cleaning and anti-bacterial
- ↗ Energy management

Environmental protection



Examples:

- ↗ Towards a circular economy
- ↗ Waterborne & solid paint
- ↗ Phase out materials of concern

Energy
Waste
Emission
Health & well-being
Toxicity
Longevity

“Whatever industry you are in, the biggest change will most likely come from outside”



Networked innovation and collaboration is the key to success

- ↗ Customers
- ↗ Suppliers
- ↗ Academia
- ↗ Startups



AkzoNobel

Challenge Themes 2019:

-  Smart Application
-  Circular Solutions
-  Enhanced Functionality
-  Life Science Infusion
-  Predictable Performance

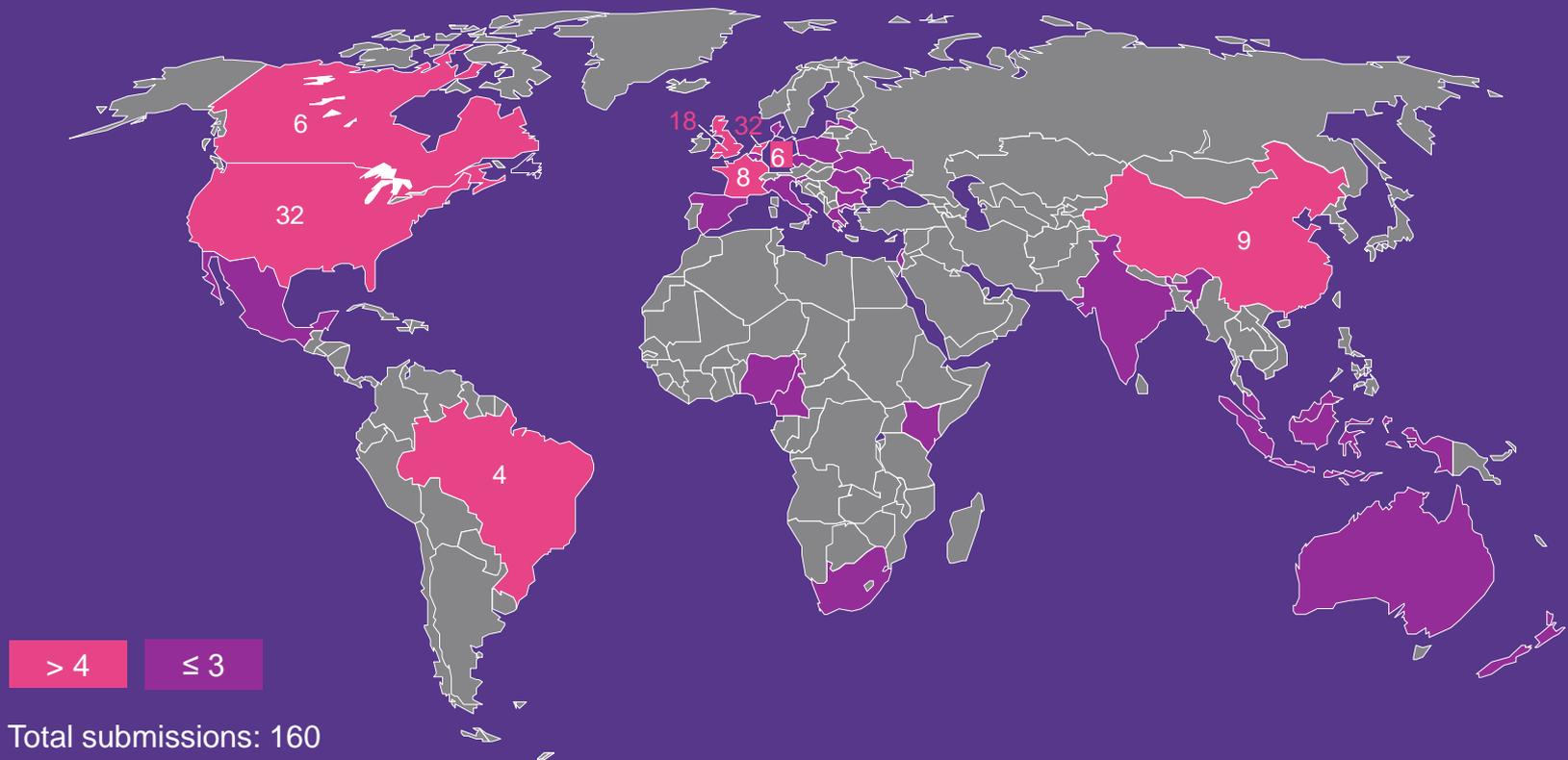
PAINT THE FUTURE

The AkzoNobel startup challenge

Powered by  KPMG

Paint The Future Challenge 2019

AkzoNobel



Total submissions: 160
21 joined the Accelerator Program



alucha
RESOURCES THROUGH INNOVATION

 circular
inorganic
pigments



qlayers

 zero overspray
application



SAS
Smart
Advanced
Sustainable
Nanotechnologies

 encapsulated
corrosion
inhibitors



APELLIX

 application by
data driven
drones



INTERFACE
POLYMERS

Changing the face of Polyolefins. Forever.

 di-block
resin
architecture



Our ambition

AkzoNobel

**to be the reference
in paints and coatings**



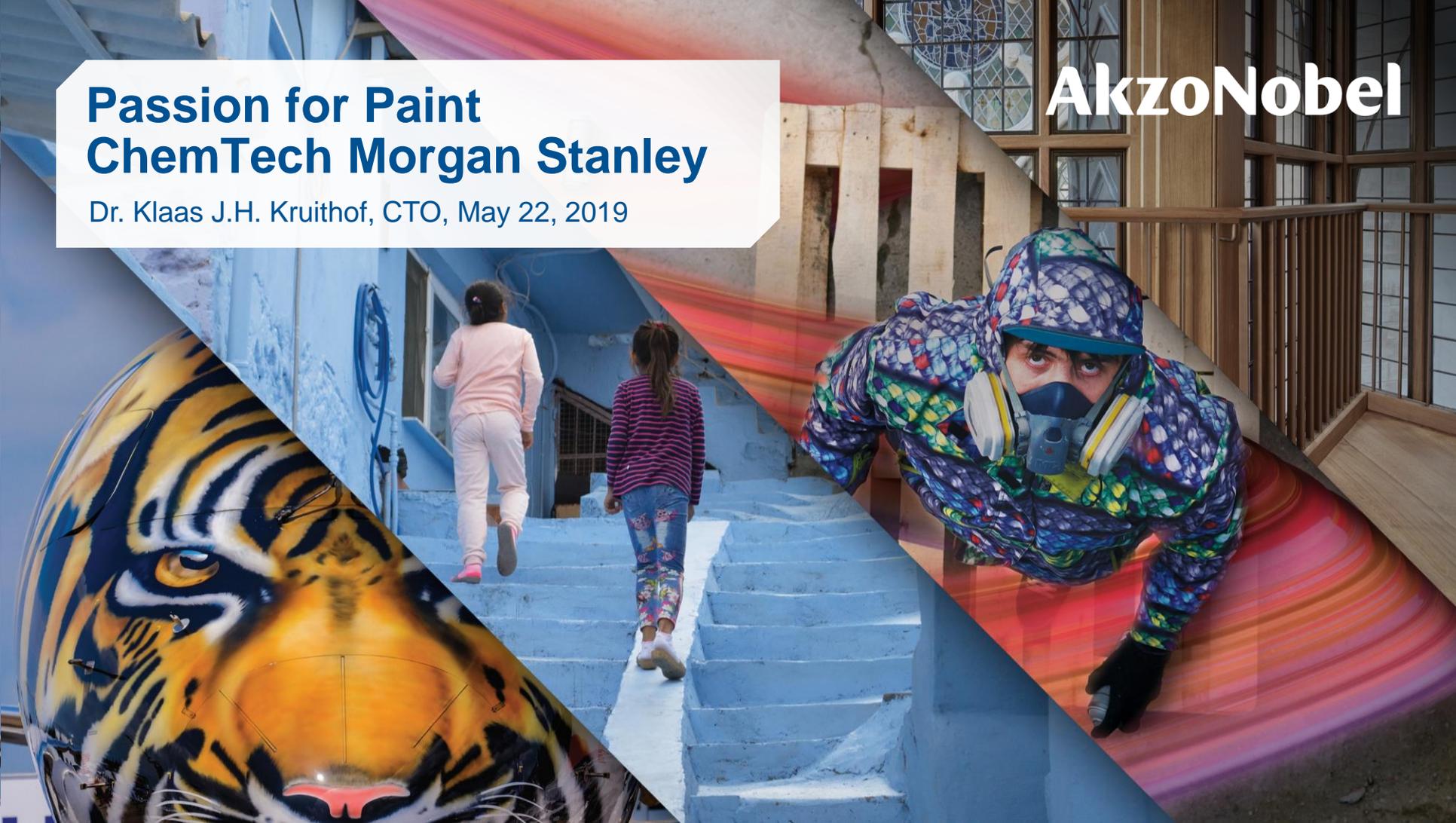
Q&A



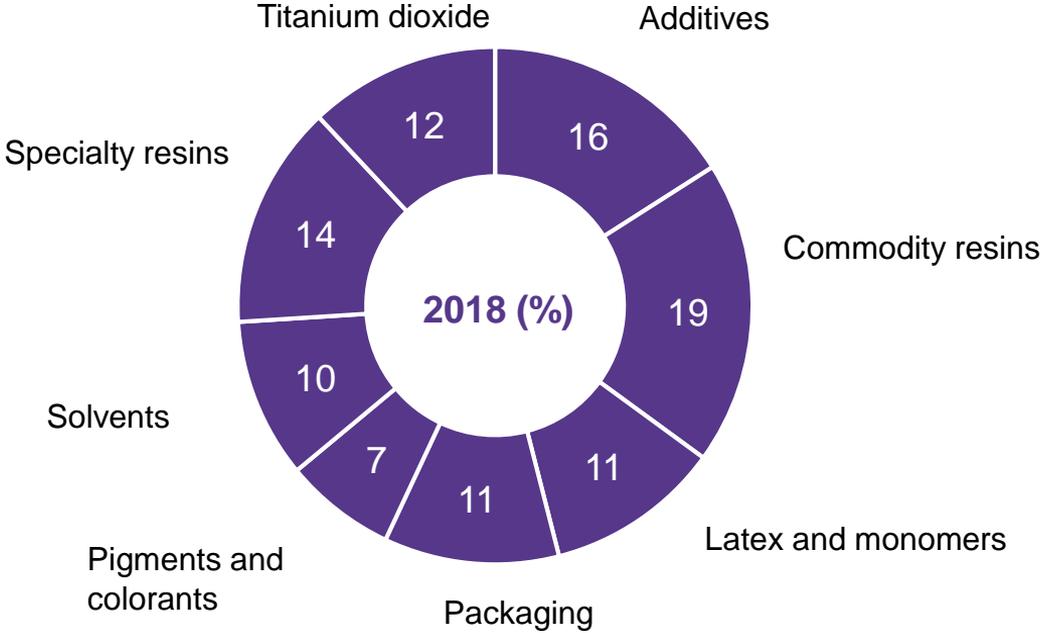
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AkzoNobel



Breakdown of total raw material spend



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This presentation also contains statements, which address such key issues as AkzoNobel's growth strategy, future financial results, market positions, product development, products in the pipeline and product approvals. Such statements should be carefully considered, and it should be understood that many factors could cause forecast and actual results to differ from these statements. These factors include, but are not limited to, price fluctuations, currency fluctuations, developments in raw material and personnel costs, pensions, physical and environmental risks, legal issues, and legislative, fiscal, and other regulatory measures as well as the sale of the Specialty Chemicals business. State competitive positions are based on management estimates supported by information provided by specialized external agencies. For a more comprehensive discussion of the risk factors affecting our business please see our latest annual report., a copy of which can be found on the company's corporate website www.akzonobel.com