PPG Global Coatings Innovation Center – to be open in July 2023



Sustainability Driven Innovation

One person's perspective

Li Luan, Ph.D., MBA CTO Asia Pacific, PPG Industries *April 13*, 2023 Capacity 550 technical staff
Global Center of Excellence
Waterborne Technology
Digital & Modeling
Mobility



Innovation dilemma

19 of 20 product innovations are said to fail

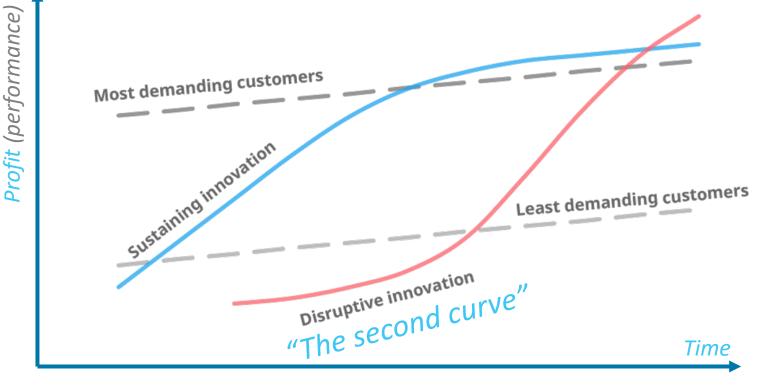
Corporate entrepreneur, delivering

growth and ROI

- ☐ reduce cost of existing products
- ☐ Create new demands via disruptive innovation

According to McKinsey, **94%**

executives NOT satisfied with their **innovation performance**.





Mega Trend: sustainability as a sixth wave of innovation

cheaper, faster, shorter cycle

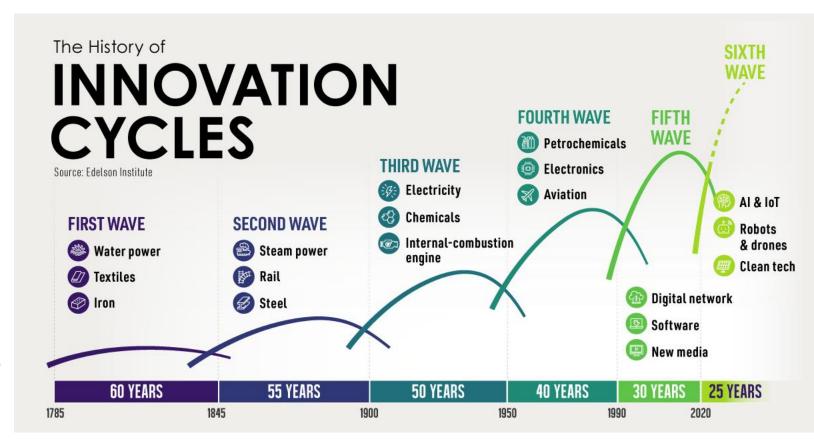
doing more with less

digitization

Business data doubles every 2 years.

digitalization

digital to create new revenues and higher profits.



<u>Schumpeter's (1982)</u> theory of "creative destruction"



Are we (Chemical Industry) prepared?

most common innovation failures:

- lack understanding of the market
- innovation is not compatible with existing capability and culture
- poor execution
- Underestimation of potential competitors.



19 out of 20 product innovations are said to fail



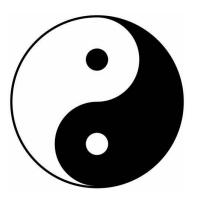
Looking for "inspired and Inspiring" people to "make a dent to the universe"

New and Integrated Skills



5 Veterans25 cadets*500 legacy employees

Disruptive Innovations to create new demands



reduce cost to supply



Take actions to drive sustainability goals

Building digital technology platforms and methodology to drive low carbons

Digital Solutions to Reduce Carbon Footprint: Energy, Waste & Green house gas



20%

50%

10%

Product transfer
Plant to Plant

Product transfer Plant to Plant

Productivity improvement via Mixing efficiency

22%

Productivity
improvement
via condenser
overall thermal
efficiency

Customer
productivity
improvement
via
via
visualization
models

Disruptive Innovation

Production 1

Fluid mixing – Low viscosity Production 2

Fluid mixing –

High viscosity

Production 3Powder mixing

Production 4
Engineering Modeling

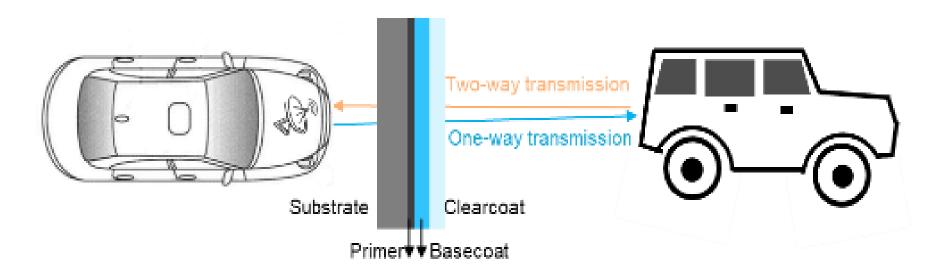
Production 5
Engineering Modeling

Product 1
Radar Loss model



An example: >80% reduction of project cycle and resources

Agility and nimbleness: 18-month project to 3-montsh



Items	Traditional Approach	With Radar Model
Lab samples needed	96	8
Lab tests	288	24

Deliver growth faster while building digital tools and people expertise

Radar transmission predictive model for auto paint

digital and sustainability: from "insprired" to actions

- ☐ digital technology is pivotal to agility & nimbleness
- □ talent: entrepreneurship is essential to disruptive innovation
- Empower the agile team and autonomy
- □ corporate **determination** for **changes**

