



Campus of Industrial Innovation



Campus: Who we are

Dow:

Founded in 1897 - 120 years of growth

~ \$50 billion in annual revenue in 2016

~ 50,000 employees worldwide

~ 6,000 R&D Employees across the globe

Successfully finalized merger with DuPont



Campus: Who we are



 **\$1.4MM**

Amount Dow pledged in 2016 to help fund **43** Habitat for Humanity builds and other projects to serve an estimated **162** families

16th TIME

Named to Dow Jones Sustainability World Index

\$2.8MM 

Amount Dow commits toward collaborative efforts to reduce ocean debris



Campus: Who we are

The Business

Sales by Business \$18,357MM



- Dow Elastomers
- Dow Electrical and Telecommunications
- Dow Packaging and Specialty Plastics
- Energy
- Hydrocarbons

Performance Plastics Overview

- Built on a foundation of raw material advantage and **innovation investments** in our polymers business.
- World class plastics assets converting ethylene into a **differentiated product mix**.
- Industry-leading technologies combined with **collaborative engagement along the value chain**

Key market segments



Industry and Consumer Engagement

Ocean Conservancy

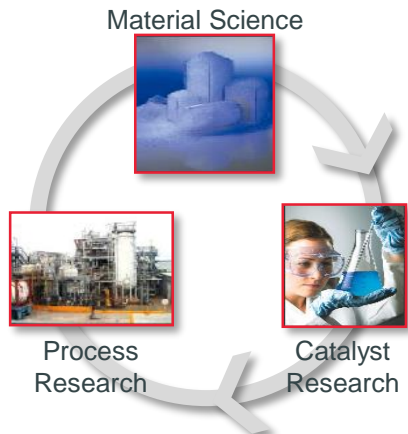
MRFF
MATERIALS RECOVERY FOR THE FUTURE

ELLEN MACARTHUR FOUNDATION



Campus: Who we are

The Function



Research



Application
Development



Converter

Supplier/Equipment
Manufacturer

Brand Owner

Retailer

Commercialization



Campus: What we offer

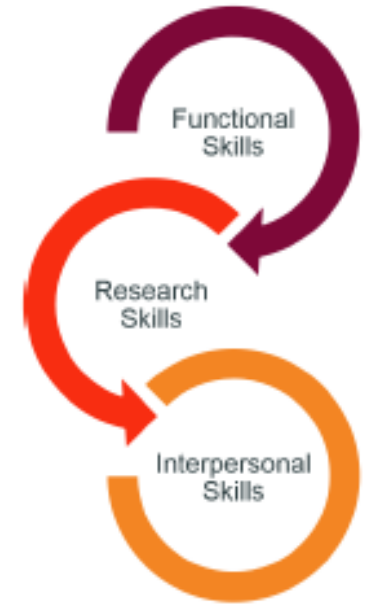
- Campus Program dedicated to selected **master students**
- **9-12 months experience** in a global corporation
 - Several weeks of dedicated **training programs**
 - Personal accountability for challenging **technical project**
Projects suitable for master thesis
 - Dedicated local coach in stimulating R&D environment
- Perfect integration in mandatory university internship programs
- Opportunity to create a network with global connections
- Attractive compensation

Aim: Prepare talent for the industry!



Campus: What we offer

- **Development Program (Snapshot)**
Focus on R&D, Interpersonal, Manufacturing and Logistics skills
 - Communication skills
 - Design of experiment methods
 - Social styles at work
 - Intellectual property applied to industry
 - Root cause investigation methodology
 - Simplifying Supply Chain to Facilitate Growth
 - Negotiation skills
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Campus: What we offer

- **Technically challenging projects**

- Projects covering different applications ranging from durable to flexible, from hygiene and packaging to automotive
- Polymers of focus:
 - polyethylene and ethylene based copolymers with acrylic acid, vinyl acetate, maleic anhydride,...
 - Wide range of density, long and short chain branching distribution, molecular weight and viscosity profiles
- Liquid chemistry systems of interest:
 - reactive polyurethane systems, acrylic based adhesive systems
 - wide range of solvent based, water based and solventless systems
 - wide range of monomers, reactivity and viscosity profiles



Campus: What we offer

- **Technically challenging projects**

- Processes of focus:

- Extrusion (blown film, cast film, fiber spinning, extrusion coating, injection molding..)
- Adhesive lamination of polyethylene based films on various substrates (e.g. oriented polyester, oriented polypropylene, non-woven,...)
- Fibers conversion technology into nonwovens
- Packaging prototyping (e.g. pillow pouch, stand-up-pouch, ..)

- Modelling and experimental projects focusing on:

- structure property relationships
- rheology
- fracture mechanics
- ...



Campus: What we offer

- **Project example 1**

- Scope: Sustainable Health & Hygiene application
Aim: Develop optimal thin airlaid structure for absorbent cores
- Modelling Part:
 - Model balance of forces during swelling of Super Absorbent Polymer (SAP) in 3D network of cellulose and polyethylene based fibers (= airlaid absorbent core)
 - Define optimal balance of forces to allow for complete SAP swelling
Work within defined boundary conditions of stiffness in dry and wet conditions
 - Translate optimal balance of forces into hypothesis about mechanical properties / shape / amount of polyethylene based fibers
 - Translate further into hypothesis about molecular weight and density of polyethylene and fiber extrusion conditions



Campus: What we offer

- **Project example 1**

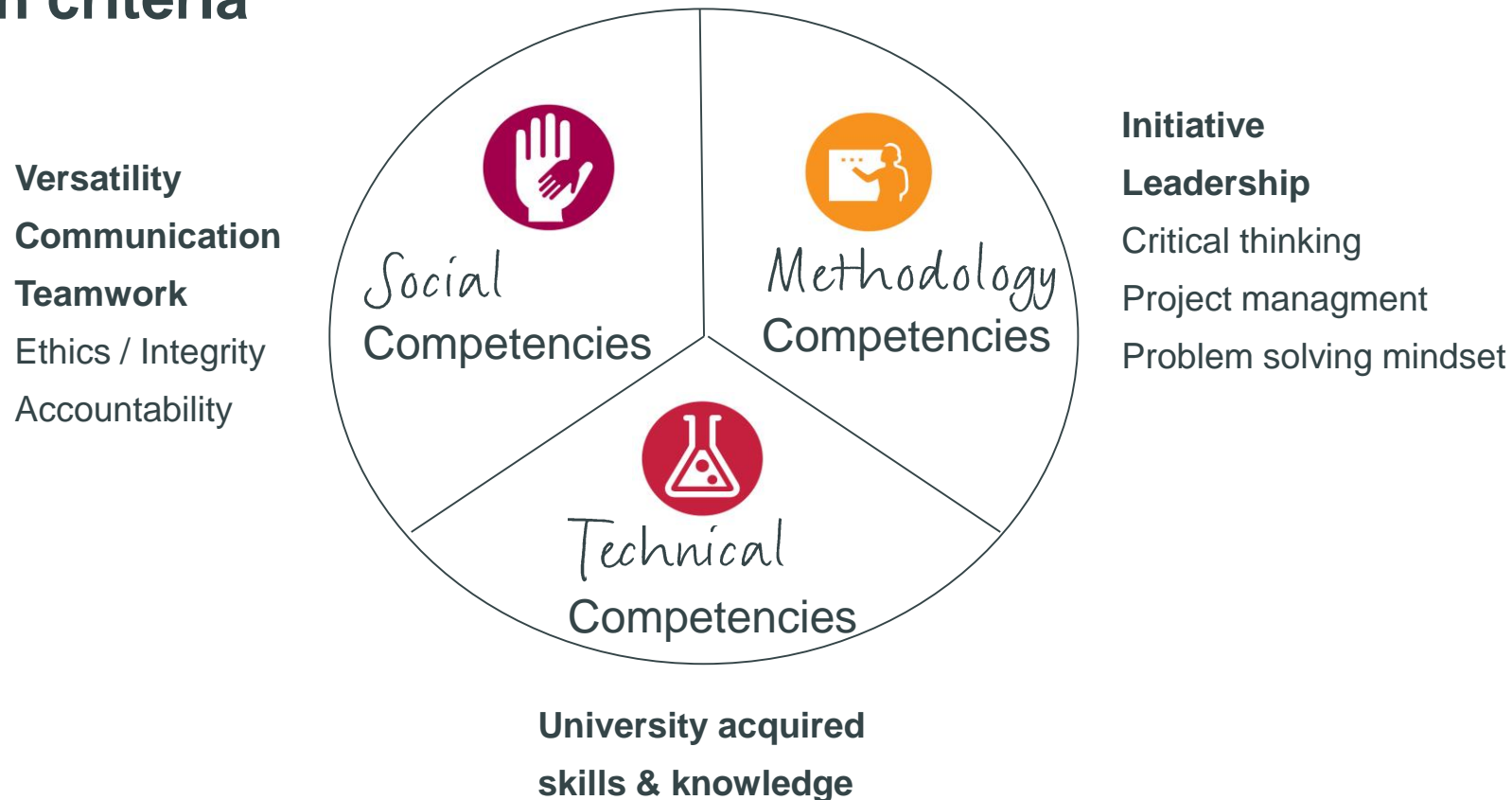
- Experimental Part:

- Develop a testing methodology to measure absorbency
- Based on model hypothesis, extrude different polyethylene based fibers
- Based on model hypothesis, produce different 3D networks (SAP, cellulose, polyethylene based fibers) via airlaid technology
- Measure absorbency of baseline structure versus new structures
Validate model hypothesis



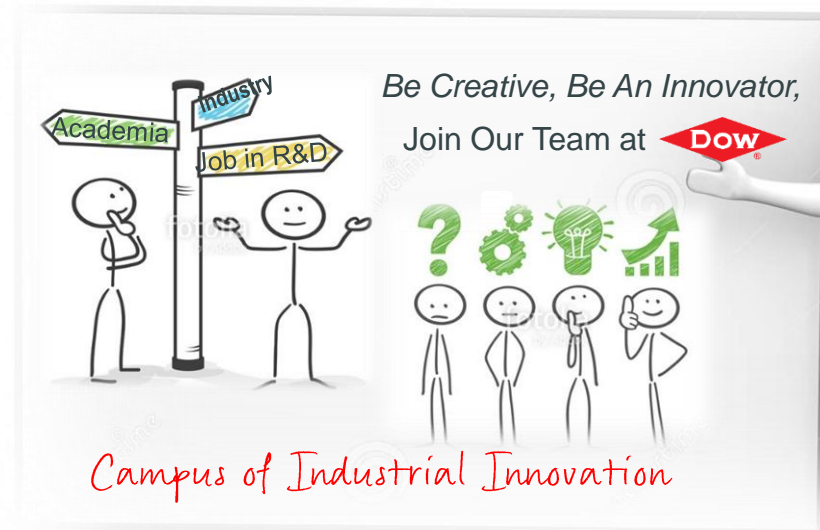
Campus: What we look for

- Initial focus on **selected long-term university partners**
 - Chemistry, Chemical / Process / Packaging Engineering master studies
- **Selection criteria**



Campus: Location and timing

- Location: *Horgen* (CH)
 - Dow Regional HQ
 - Stimulating and diverse environment with ~700 employees and ~50 nationalities!
- Campus opening: *2018*
 - First round of max 10 positions for motivated master students
- WebPortal for registration currently under development



Campus: Conclusion



Let's develop together the next generation of industry experts!



Thank you!

