

Master's in Sustainable Product-Service System Innovation (MSPI)

A master's programme to
prepare people
to be sustainable product
innovators
(2 year)

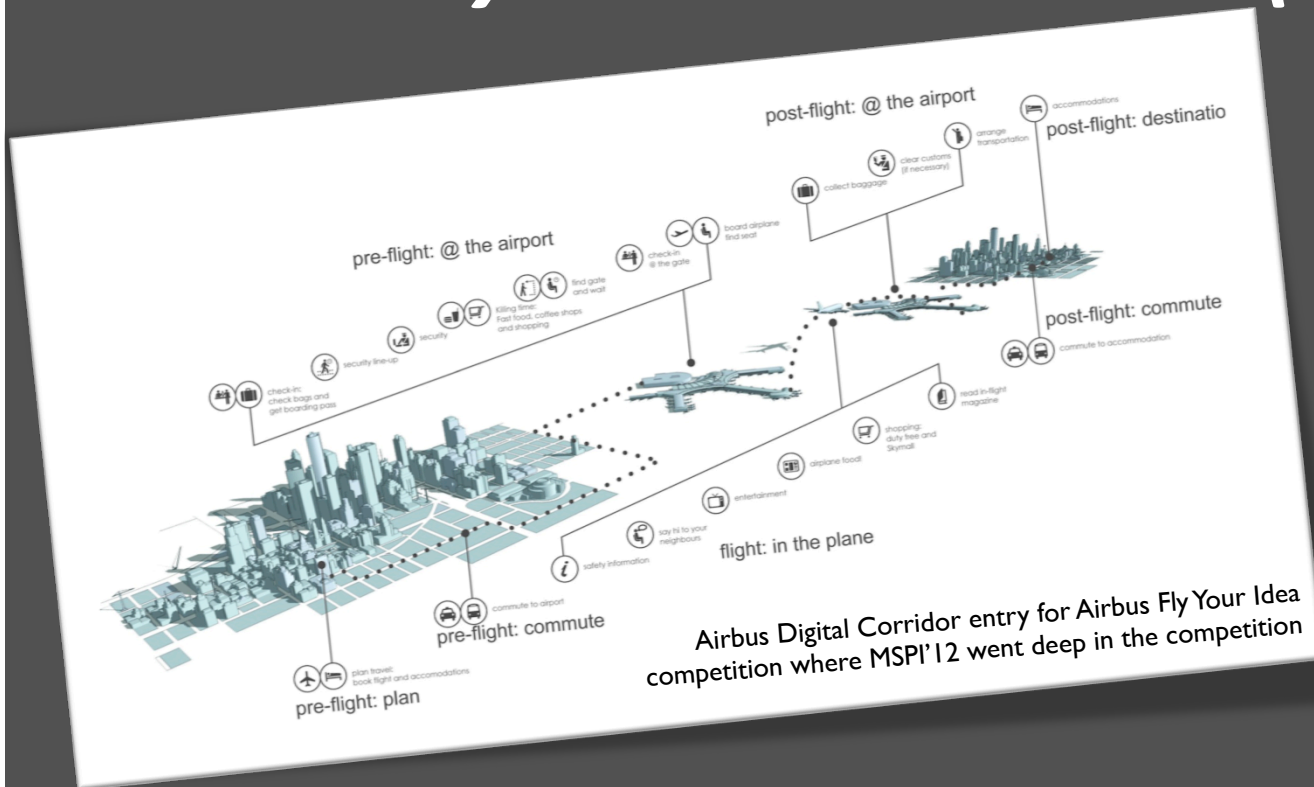


Learn more at

mspi.se



Master's in Sustainable Product-Service System Innovation (MSPI)



MSPI students learn how to harness their creative talent to design products, services, and product-service systems that help companies create value, and society to reach socio-ecological sustainability.

Graduates of the program are prepared to drive product innovation that both meets user needs and generates key competitive advantages in the expanding sustainability-driven market.

Learn more at
www.bth.se/mspi



Toolbox 2.0 for engineer of tomorrow



*What goes into
the toolbox?*

- Building the engineers
desktop 2.0 for ability
to innovate sustainable
product-services

We train ability to identify needs/opportunities and transform them into solutions

Where do ideas come from?

INSPIRATION

|

IDEATION

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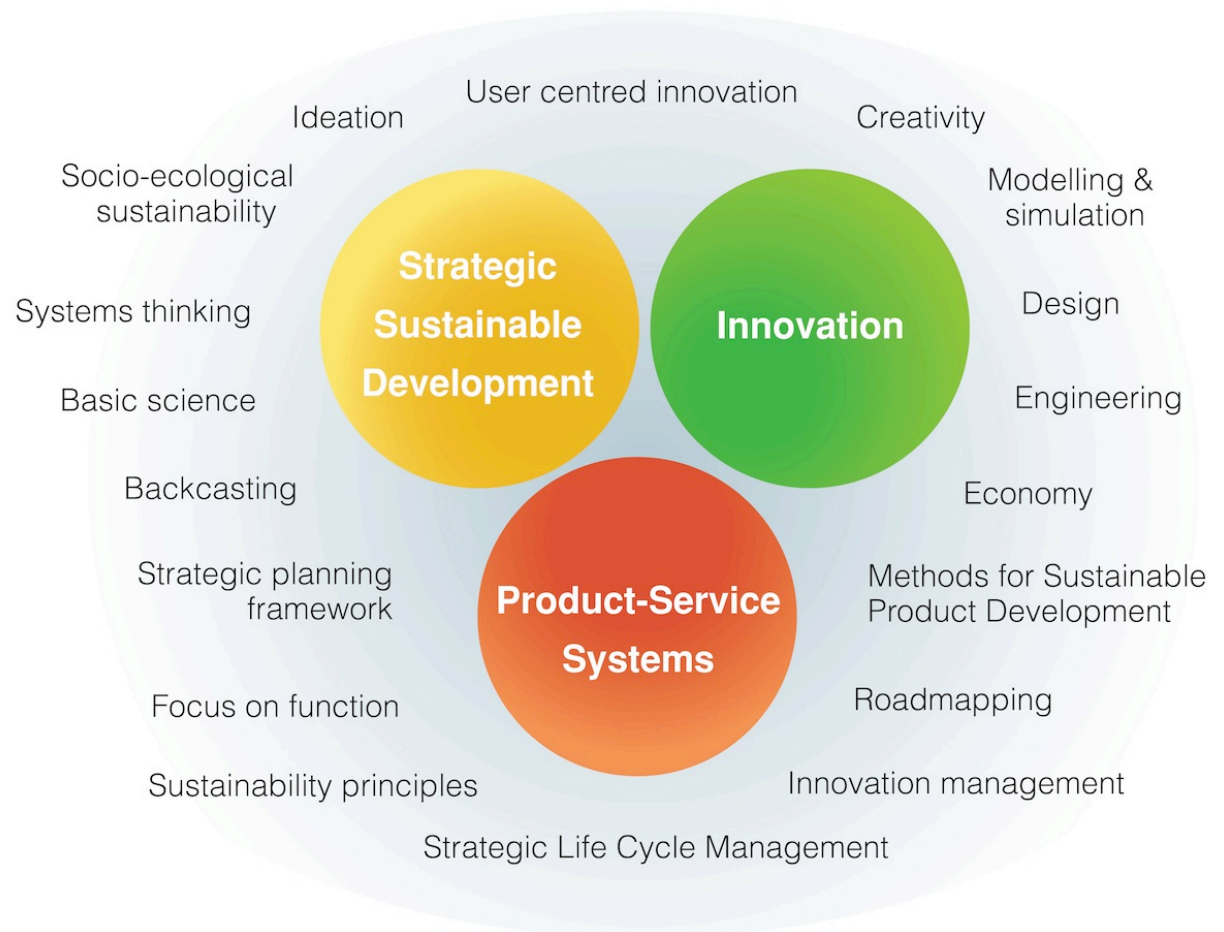
IMPLEMENTATION

Getting ideas out into the world.

Having good ideas.

Overall programme vision/purpose

- to support the sustainable development of global economy and society
- to strengthen industry in the increasingly sustainability-driven global market
- for students to gain insight and knowledge of how different companies work

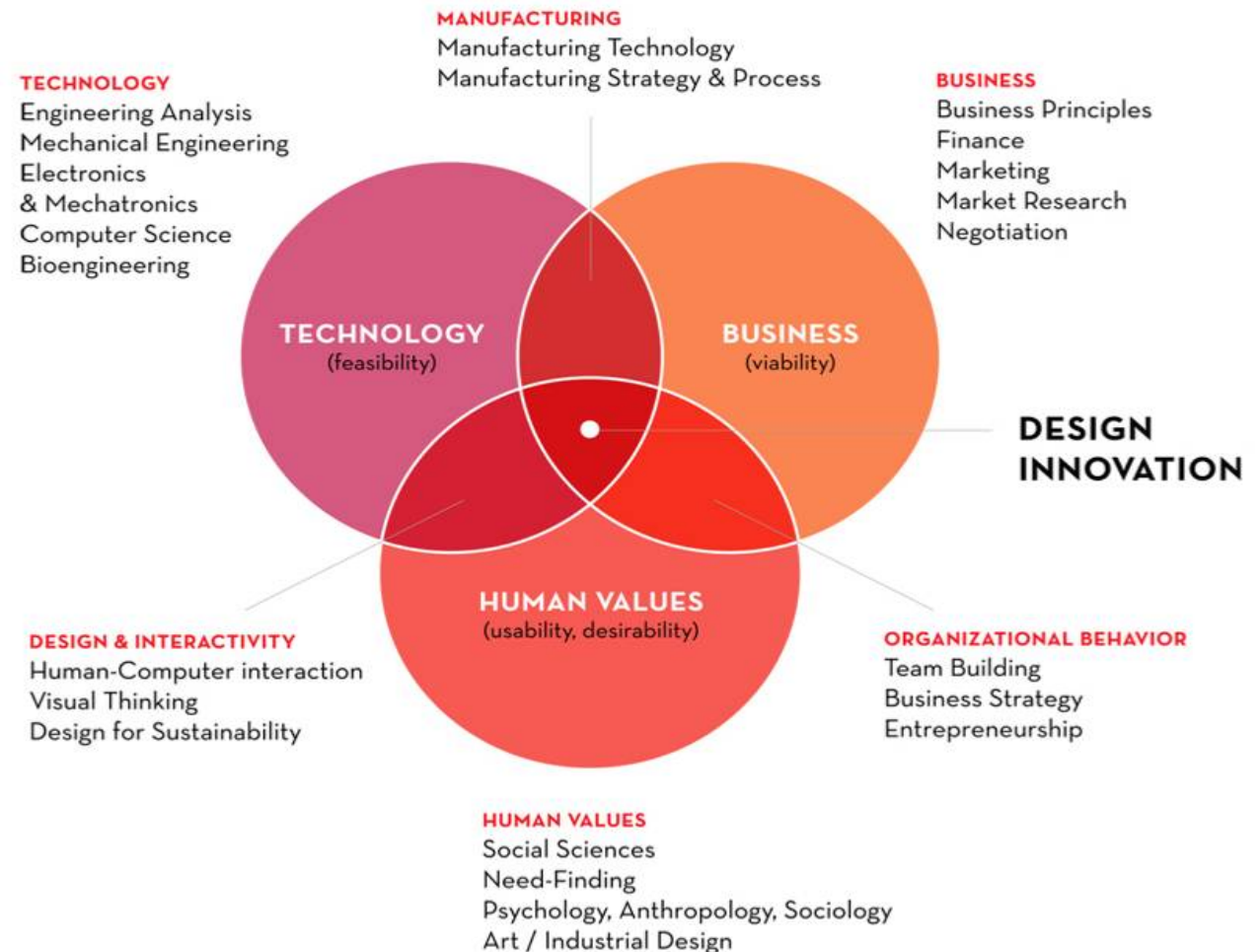


MSPi mixing disciplines to deliver innovation!

1. **Human Values:** "What is desirable to people? What are people's needs?"
2. **Technology:** "What is possible to do with technology?"
3. **Business:** "What is the capacity for survival?"

What happens in the intersections?

Design Innovation = the sweet spot we're all looking for?





Close industry/academia collaboration

- Programme planned and executed in close collaboration with Swedish industry
 - » ABB
 - » Aura Light
 - » Blekinge Business Incubator
 - » Cleantech Inn Sweden
 - » Coresource
 - » Dynapac Compaction Equipment
 - » Ocean Harvesting Technologies
 - » Sapa Heat Transfer
 - » GKN Aerospace Engine Systems
 - » Volvo Construction Equipment
 - » Volvo Truck Corporation
- Thesis and course project collaboration
 - Also close collaboration with state-of-the-art in research on national and international level
 - » Stanford University, Tokyo University, McGill University etc.



VOLVO CONSTRUCTION EQUIPMENT



VOLVO TRUCKS



Academic goals for graduated students

- **Introduce** a strategic perspective of sustainability to a product innovation process in a company.
 - » **apply** a strategic sustainability perspective within different technical competence areas
- **Analyze** sustainability challenges for an organization in a scientific manner
 - » **run** sustainable innovation programmes/projects in **companies** and **public organizations**
- **Use** new methods and tools, and engineering skills, to work with sustainable product-and service innovation in **close collaboration with industry**.
 - » **contribute** to a change through application and knowledge of different support tools and methods for sustainable product-service system innovatio
- **Support** a transition towards a more service-oriented economy.
 - » **create** innovative strategies for attractive Product-Service System (PSS) offers



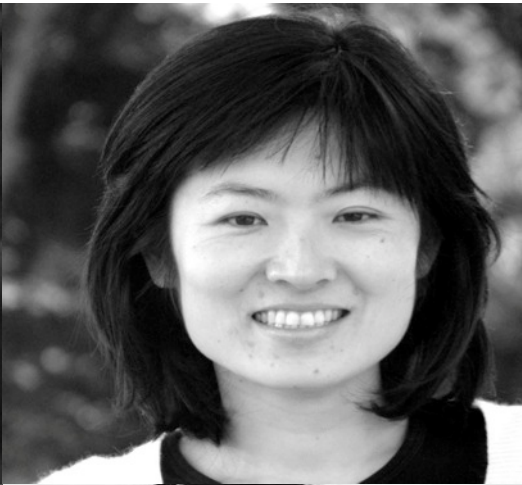
How will you
innovate for a
better world?

bth.se/mspi



Industry goals for graduated students:

- **Specific skills:**
 - » Ability to perform value innovation for industrial situations
 - » Be able to understand product development processes and how sustainability can be included in them;
 - » Coordinate close functional teams for product/service development, production, customer support, marketing/sales;
 - » Participate in product & service planning: connecting engineering, business development, customer needs to anticipate future customers' needs.
- **Basic skills:**
 - » Be familiar with tools for ideation, customer value, innovation, product development, service development, sustainability assessment.
 - » Have excellent presentations skills and be able to communicate PSS and do sustainability reporting, as well as to run workshops, demonstrate and use visualization tools for communication;
 - » Extend traditional engineering competence into areas such as service development, including sustainability, innovation -and customer value thinking.



MSPI Experience

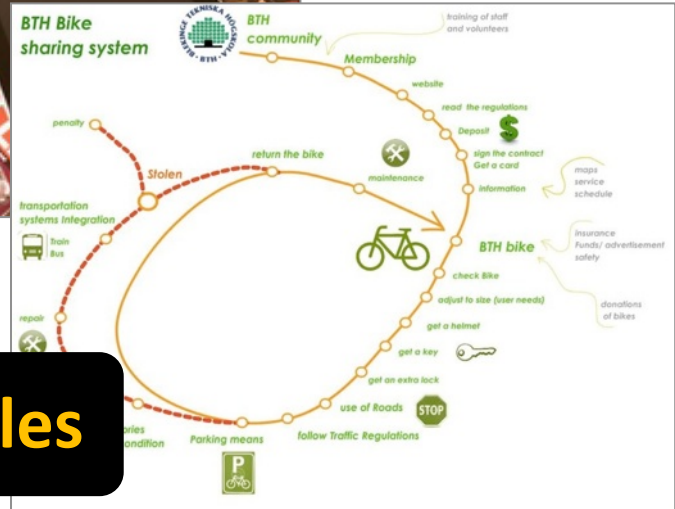






Bullitt - Component Breakdown - Materials and Manufacturing Processes

MSPI + Larry vs Harry
STM Project: Bullitt Cargo Bicycle
 by: Joshua Foss, Maja Feldman, Chris Rhodes and Mark Simmons



Course project examples

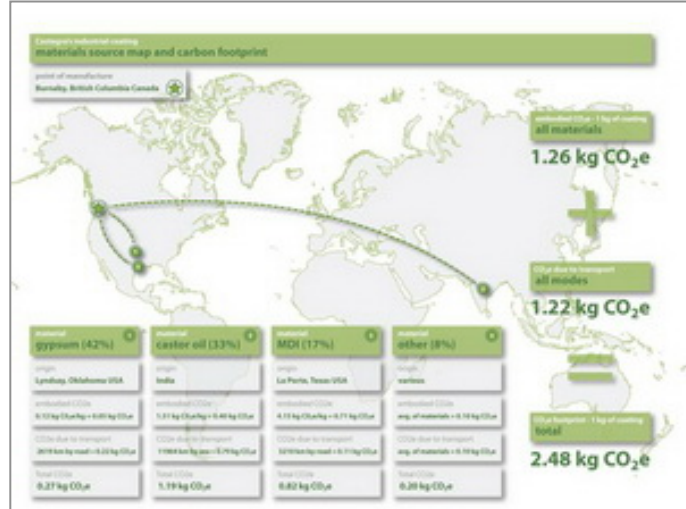
THE WORLD OF P2P CARSHARING

passenger vehicle ownership by country (2012)

Country	Platform
FINLAND	meigo
SWEDEN	Flexdrive
BELGIUM	autoparc, déjagge
NETHERLANDS	my wheels, snap car, wago
USA	eGo carshare, getaround, go-op, rent2fly, jolly wheels, mesh motos, path car share, relay rides, rent my car, spride, wheelz
GERMANY	autonetzer, nachbarschaftsauto, rent-a-car, tanyca
SWITZERLAND	car2be
FRANCE	mavomavo, social car
SPAIN	
SLOVENIA	posodi avto
JAPAN	calore
AUSTRALIA	drive my car, rentab

designed by Mark Simmons - 2012
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Find more examples and theses on mspi.se



Finalists in Airbus Fly Your Idea 2010

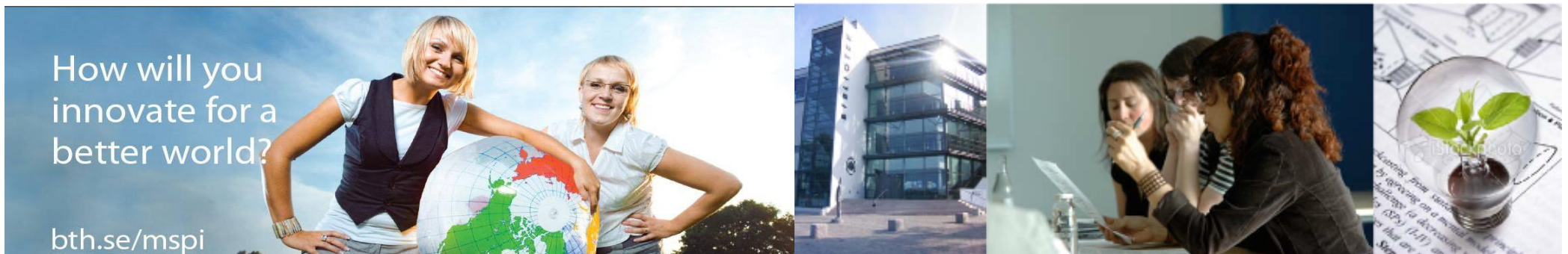






Some details about MSPI

- 2 year programme
- The goal is to graduate students who can go out and begin / continue working in industry!
- We also strive to keep some MSPI graduates on as PhD students – which in Sweden involves an additional 4-5 years of study (and a comfortable salary!).





Programme Overview

First year

Period 1	Period 2	Period 3	Period 4
Introduction to strategic sustainable development (7.5 credits)	Strategic management for sustainability (7.5 credits)	Methods for Sustainable Product Development (7.5 credits)	Systems Engineering (7.5 credits)
Creativity for Product- and Service Development (7.5 credits)	Engineering for a Sustainable Society (7.5 credits)	2 elective courses and second year (Innovation Engineering, Business, Industrial Economy, Mechanical Engineering, Sustainability)	
September	November	March	June



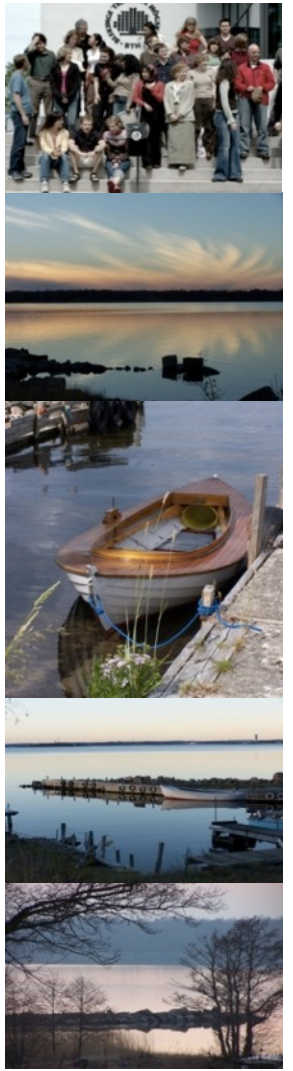
For more info on courses, mspi.se



Programme Overview

Second year

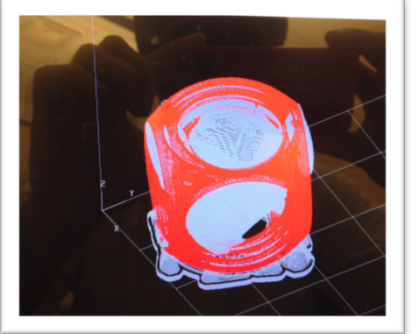
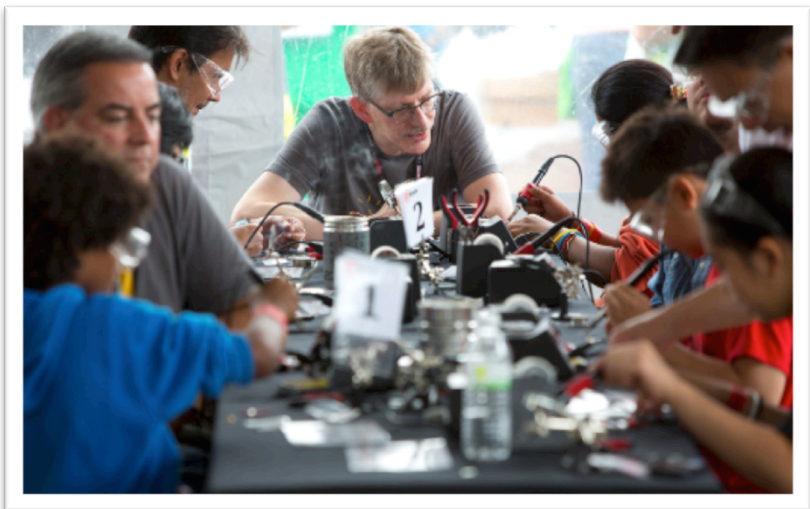
Period 1	Period 2	Period 3	Period 4
Value Innovation (7.5 credits)	Product-Service System Design Research (7.5 credits)	Master Thesis in Sustainable Product-Service System Innovation (30 credits)	
Project PSS Extreme Innovation (15 credits)			
September	November	March	June



For more info on courses, mspi.se



Makerspace environment at your hands in collaboration with science park and business





Programme Requirements and Application

- MSPIs need to:
 - » Have a bachelor's degree (or equivalent experience) in engineering, industrial design, industrial economy, or a closely-related field
 - » Sufficient English language skills
- Applications for MSPI will be open until (at least) the end of February 2014. Information about the application can be found at www.bth.se/mspi and www.mspi.se





PDRL - Product Development Research Lab

Five thematic areas at BTH host environment:

- **Engineering Design** (product focus)
- **Innovation Engineering** (process focus)
- **Product-Service Systems** (process focus)
- **Structural Analysis** (analysis focus)
- **Water Jet Production Systems** (production focus)



<http://www.facebook.com/productdevelopmentresearchlab>



@PD_Research_BTH



http://www.linkedin.com/groups?home=&gid=4659434&trk=anet_ug_hm



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