

Digital Transformation and Learning for a Sustainable Future



Professor Robin Teigland
Chalmers University of Technology
www.slideshare.net/eteigland

Konjunkturrådets rapport 2021: *Digitalisering och konkurrens*

*Sten Nyberg
Richard Friberg
Björn Lundqvist
Robin Teigland*



OPINION

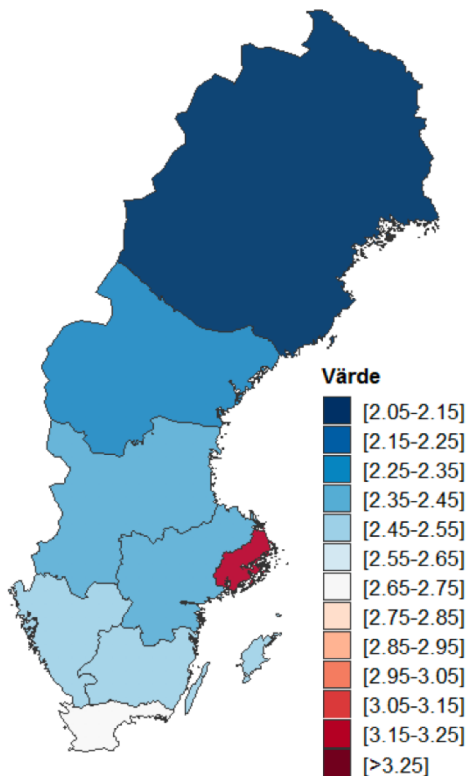
"Stärk Sveriges konkurrenskraft i den digitala ekonomin"

2021-02-25 16:00

7 kommentarer



Digital maturity is uneven in Sweden



Sweden <  OECD

- ICT sector has lower level of digital competence (2018)
- Only 20% of 15 year olds want to work in STEM, vs 25% in OECD (PISA 2015)

Keep moving forward



The world now stands on the **culsp of a technological revolution** in artificial intelligence and robotics that may prove as **transformative** for economic growth and human potential as were electrification, mass production, and electronic telecommunications in their eras.



GRACE GALLERY DEN,

MINN:4692











DIGITAL Workforce.ai

⚡ by Amelia

The World's First Marketplace for Digital Employees™

Start building your future workforce today through DigitalWorkforce.ai, the one-stop online marketplace where users can browse, interview and onboard Digital Employees™ powered by Amelia®, the industry-leading cognitive AI solution.

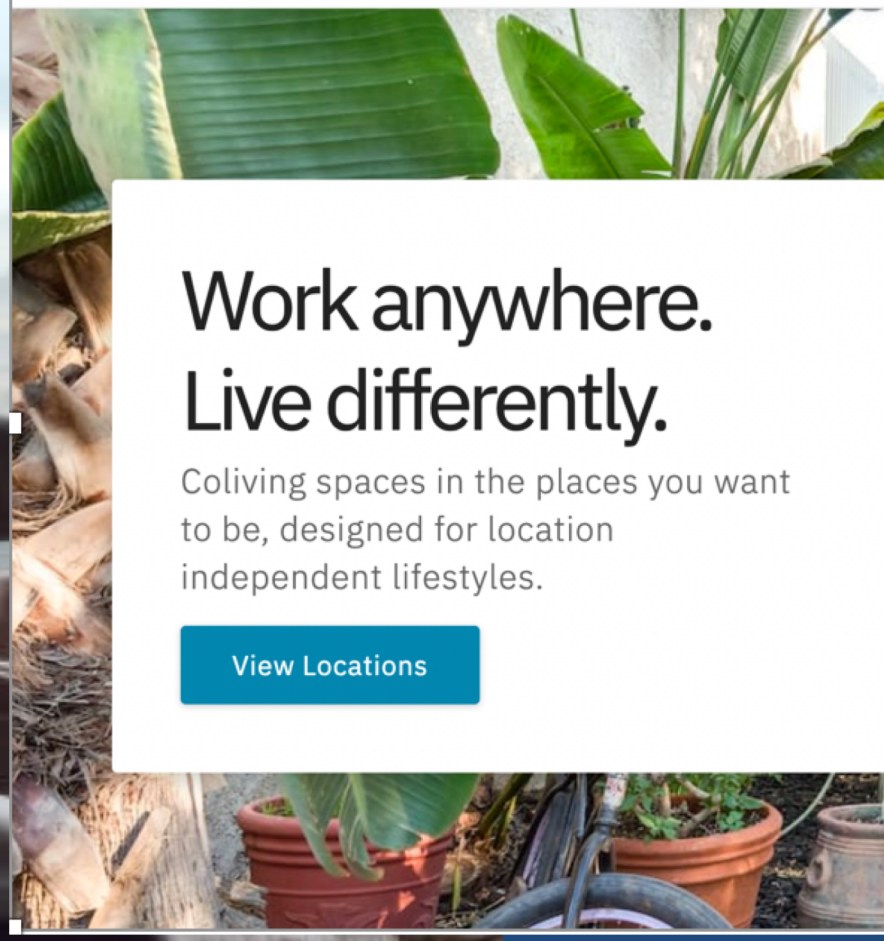


[Interview Amelia](#)

[IT Service Desk
Engineer](#)

[New Account Manager](#)

[HR Coordinator](#)



Work anywhere. Live differently.

Coliving spaces in the places you want to be, designed for location independent lifestyles.

[View Locations](#)

Self-sustaining communities?



Framtidens arbetsliv är här!



Framtidsyrken:

1. Distansare
2. Gig-manager
3. Robotpersonlighets-
designer
4. Kulturflätare
5. Klimatrevisor
6. Vertikalodlare
7. Etikutvecklare
8. Molnvakt
9. DNA-coach
10. Oldfluencer

Companies Hiring, Jobs

15 More Companies That No Longer Require a Degree—Apply Now

January 10, 2020 | Posted by [Glassdoor Team](#)



A PhD is definitely not required. All that matters is a deep understanding of AI & ability to implement NNs in a way that is actually useful (latter point is what's truly hard). Don't care if you even graduated high school.

— [Elon Musk \(@elonmusk\)](#) *February 2, 2020*

“Being Smart”

20th Century

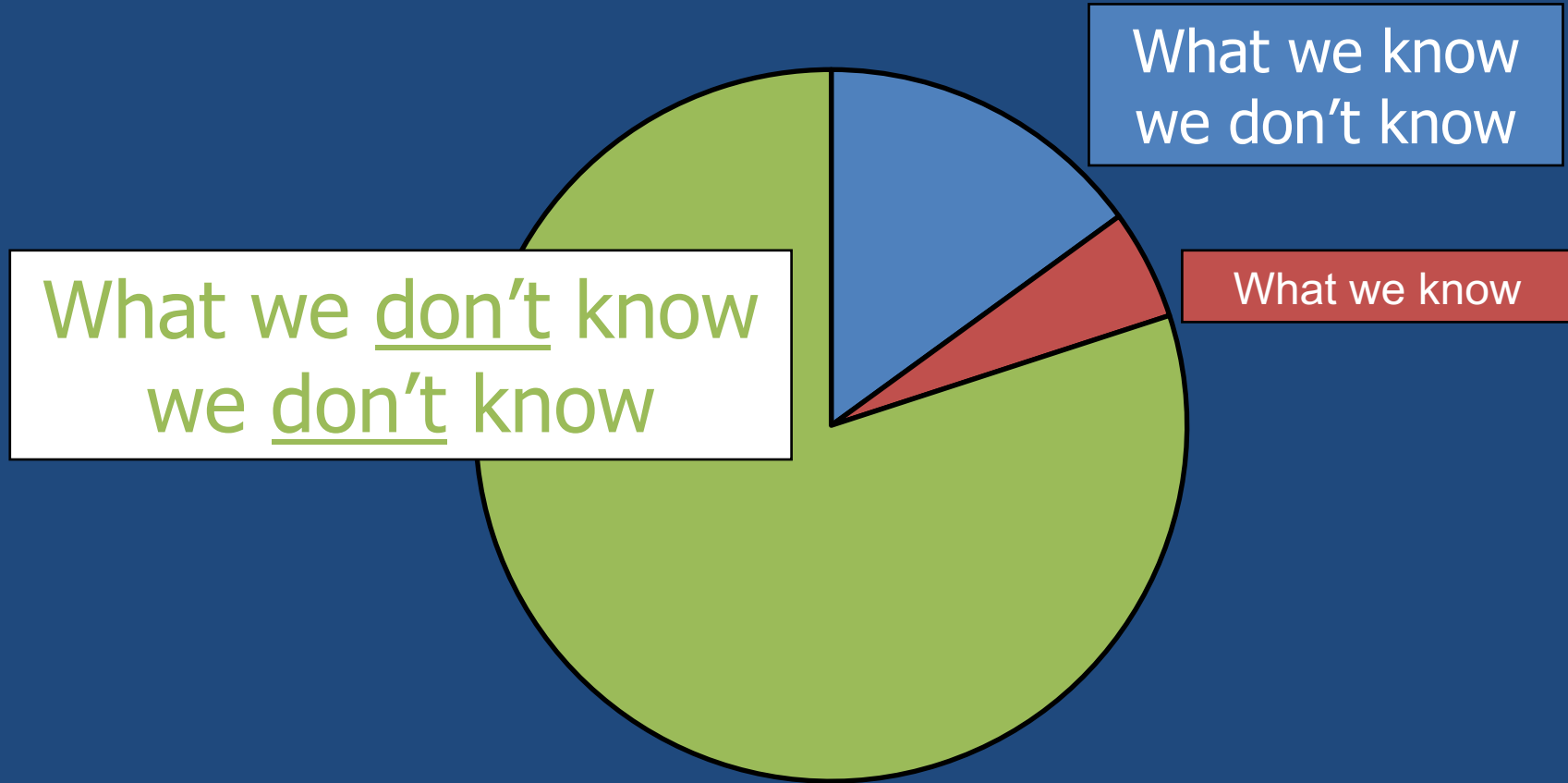
What you
know or
how you know



Age of AI

Quality of your
thinking, listening,
relating, collaborating
and learning

The future?



What we know
we don't know

What we know

What we don't know
we don't know



**“ The future is best found
in the opportunities that go
unnoticed in the present. ”**

Peter Drucker

A simple exercise

Read out loud together


OPPORTUNITIES ARE NOWHERE

Välkommen att lära dig grunderna i artificiell intelligens!

Över 420 000 personer har gått kursen världen
över. Nu finns den på svenska!

Välj språk  Svenska ↓

[Gå kursen →](#)




CS50

VERIFIED

HarvardX
CS50's Introduction to Artificial Intelligence with

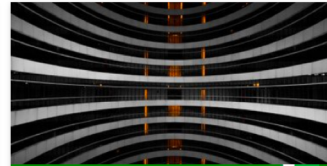
Current
Self-Paced



VERIFIED

IBM
AI for Everyone: Master the Basics


Current
Self-Paced



VERIFIED

HarvardX
Data Science: Machine Learning

Current
Self-Paced




VERIFIED

PennX
Robotics: Locomotion Engineering

Current
Self-Paced

MicroMasters®



VERIFIED

PennX
Robotics: Dynamics and Control

Current
Self-Paced

MicroMasters®



PROFESSIONAL CERTIFICATE PROGRAM

IBM
Deep Learning

This hands-on program will prepare and equip you with the

Current




MICROMASTERS® PROGRAM

ColumbiaX
Artificial Intelligence

Earn a MicroMasters® program credential in Artificial Intelligence

Current

MicroMasters®



VERIFIED

UCSanDiegoX
Dynamic Programming: Applications In Machine

Current
Self-Paced

MicroMasters®

Search

Home

Documentation ^

Get started with the platform v

Tutorials ^

- For beginners
- For intermediate users
- For expert users
- Deploy an operational AI model v
- Predict real estate prices v
- Self sorting wardrobe v
- Movie review feelings v
- Classify text in any language v
- Build your own music critic v
- Use AI to detect fraud v

For beginners

The best way to learn is to try it out yourself. Here you'll find our tutorials and use cases ready to be used by you. The tutorials will give you an overview of the platform or will highlight a specific feature.

We recommend you start with the [Deploy an operational AI model](#) tutorial. It will give you an overview of the platform's key concepts.



Deploy an operational AI model

Explore how to build an image classification model that can recognize handwritten numbers. Then deploy and test it.



Predict real estate prices

Build and train an AI model with real data — both numbers and images — using the Peltarion Platform to make it reliable for house price prediction.



Self sorting wardrobe

Build an image classifier of clothing through creating the typical building blocks of a convolution neural network.



Movie review feelings

Build a text classifier to perform sentiment analysis on movie reviews.



Classify text in any language

Build a multilingual text classifier that can recognize many different topics.

- Home
- Compete
- Data
- Code
- Communities
- Courses
- More

Search

Sign In

Competitions

Grow your data science skills by competing in our exciting competitions. Find help in the [documentation](#) or learn about [InClass competitions](#).

+ Host a Competition



New to Kaggle? Start here!

Our Titanic Competition is a great first challenge to get started.



Titanic - Machine Learning from Disaster
 Start here! Predict survival on the Titanic and get familiar with ML basics
 Getting Started • Ongoing • 21921 Teams

Knowledge

All Competitions

Active Completed InClass

All Categories Default Sort



RANZCR CLiP - Catheter and Line Position Challenge
 Classify the presence and correct placement of tubes on chest x-rays to save lives
 Featured • 6 days to go • Code Competition • 1438 Teams

\$50,000



Architectural and Organizational Patterns in Machine Learning with Nishan Subedi

MARCH 8, 2021

Today we're joined by Nishan Subedi, VP of Algorithms at Overstock.com.



Subscribe: [iTunes](#) / [Google Play](#) / [Spotify](#) / [RSS](#)



Common Sense Reasoning in NLP with Vered Shwartz



How to Be Human in the Age of AI with Ayanna Howard



Evolution and Intelligence with Penousal Machado



Innovating Neural Machine Translation with Arul Menezes

#oceanotech

CDNShipbuilders @CDNShipbuil... 1h
Great list for those into design thinking and #submarines.
#cdnships #maritime #shipbuilding #design #oceanotech

MarineInsight @MarineInsight
Top 10 Books On Submarines

In this article, we will take a look at the top 10 books on submarines design. >> Check out the article buff.ly/2GKFset

#Shipping #Maritime #Learning #Understanding #MarineInsight



1

CDNShipbuilders @CDNShipbuil... 1h
Superbe! #cdnships #maritime #ships #oceanotech #tech

Quebec simulator @sim_pilot_qc
plus.lapresse.ca/screens/f284c2...
via @LP_LaPresse

2

CDNShipbuilders @CDNShipbuil... 2h
Intriguing design ideas here.
#cdnships #maritime #shipbuilding #design #oceanotech #tech

Marine Industry News @marinei...
Marine technology provider, Heglund Marine Solutions, has taken a two-thirds stake in

#machinelearning

TwinyBots @Twinybots 50s
10 Ways Machine Learning Is Revolutionizing Supply Chain Management #BigData #learning #machinelearning
forbes.com/sites/louiscol...

Ronald van Loon @Ronald_vanLoon... 1m
The Math Of #MachineLearning - Berkeley University Textbook by @CapriGranville @DataScienceCtrl

Go to bit.ly/2KwJrOT

#AI #BigData #ArtificialIntelligence #ML #MI #DataScience #Analytics #DeepLearning #DL #Tech

Cc: @analyticbridge @kdnuggets @ibmanalytics

AI	Human Intelligence
Created by human intelligence	Evolutionary process
Process information faster	Slower
Highly objective	May be subjective
More accurate	May be less accurate
Uses 2 watts	Uses 25 watt
Cannot adapt to changes well	Easily adapt to changes
Cannot multitask that well	Easily multitask
Below averaged social skills	Better social skills on average
Still working towards self-awareness	Self-awareness
Optimization	Innovation
*cheap	Expensive

1 2

Machine Learning Trends @M... 1m
10 #tips to improve your machine learning models with TensorFlow #machinelearning #ml #artificialintelligence #ai #dormosheo #digitalproduct #api #dormosheo.io/trending-news/...

Sheena Joseph @sheena2804 1m
#BigData sets unlocking \$45 billion of value by 2023 >>> #PwC >>> #AI #MachineLearning #defstar5

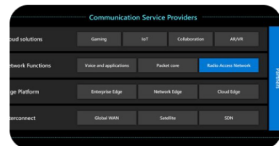
#5G

Anne Lochoff @Lochoffs 52s
A Green Future? How #AgTech can help the agriculture industry embrace #sustainability: technative.io/a-green-future... via @TechNative

#IoT #5G #WomeninTech #SustainableAgriculture

Jean-François Guyot @JFG... 1m
A 19H00, #keynote @Apple #iPhone #5G apple.com/apple-events/ #hightech

Microsoft Developer Ireland ... 1m
#Microsoft partners with the #telecommunications industry to roll out #5G and more msft.it/6015TIAoU #MSDevIRL #Azure #Developers



1

5G Americas @5GAmericas 2m
New Commercial #5G Deployments and Subscriptions March Ahead bit.ly/378Wttg



#smartrobotics

Vallum Software @vallumsoftware 2d
Adoption of the Internet of #Robotics Things Accelerates - buff.ly/34cxyBZ #robots #IoT #IoT #smartrobotics



3

SmartState @SmartStateIndia Sep 28
Capp Gemini recognized for innovation in Artificial Intelligence with 2020 AI Breakthrough Award @Capp Gemini @AI_Breakthrough #AI #AIBreakthroughAward #SmartRobotics #BusinessIntelligence #NaturalLanguageProcessing #AIApplications

smartstateindia.com/cappgemini-reco...

3

Dena @denary12 Sep 15
#stryker #smartrobotics #mako @StrykerOI theshillongtimes.com/2020/09/15/r-ob...

3

Qualitas Global @QualitasGl... Aug 28
Artificial intelligence #infographic with #robot head profile and icon set.

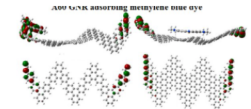
#machinelearning #smartrobotics #digitaltechnology

Screenshot

#graphene

Vasil Saroka @SarokaVasil 45m
@gaussian broadens our horizons in understanding novel nanomaterials: authors.elsevier.com/c/1bulW_VYHa de...

#publishing #graphene #nanoribbons #quantumchemistry #ScienceTwitter #physics #chemistry



3

Bresslergroup @Bresslergroup 1h
Researchers discovered a rare form of magnetism that can arise from a three-layer graphene structure. #engineering #graphene #magnetism bit.ly/2H3BSvt

3

smart2zero @Smart2Zero 1h
Multiplexed #COVID test #sensor may enable at-home #diagnosis - bit.ly/3jUyW37 #COVID19 #graphene

3

GESDA.global @GESDAglobal 1h
#Quantum - Avec ses extraordinaires propriétés scientifiques, le #graphène serait-il LE matériau du XXIe siècle ? futurasciences.com/sciences/actua... @futurasciences @Emma_Hollen @AaltoUniversity @VTTFinland @mpmotton @nature



Exploitation

Exploration

Exploration

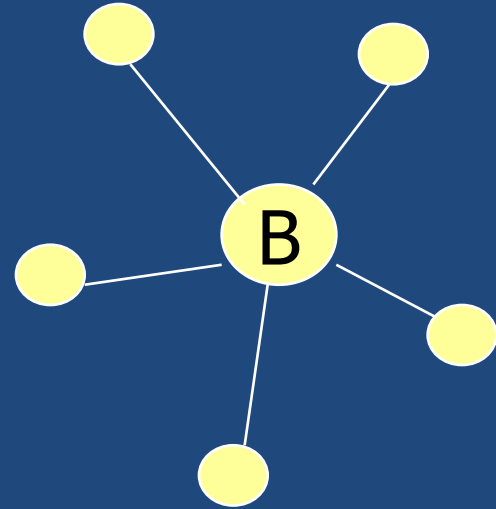
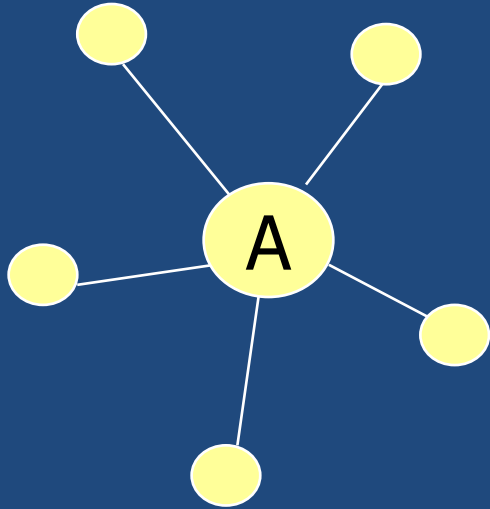


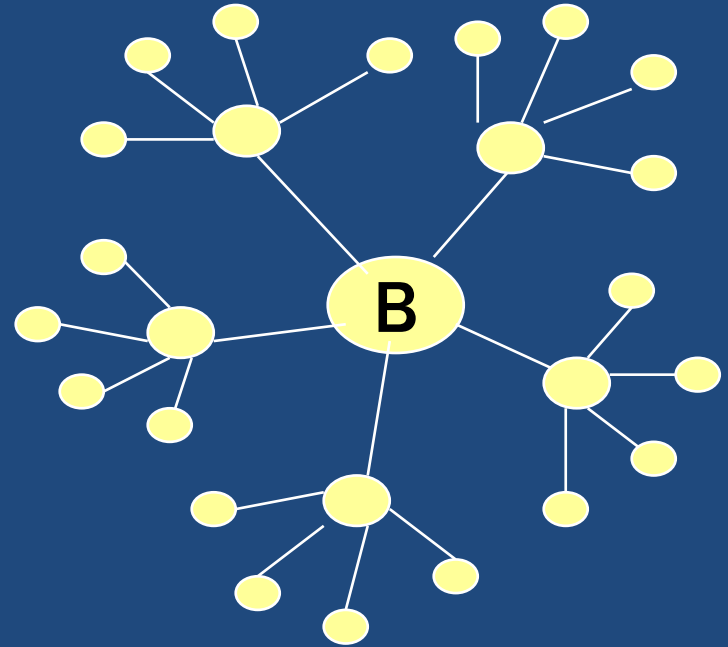
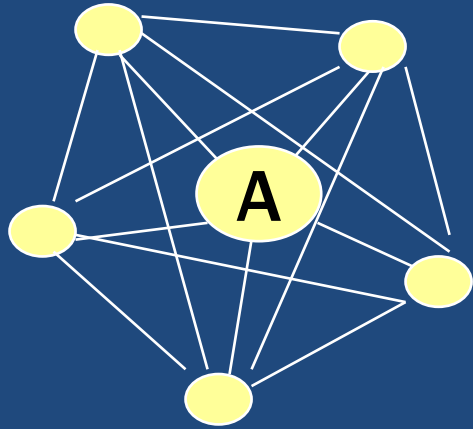


**The ocean is
in a critical state**



Two individuals (organizations)
with the same number of contacts...





**...but with very different
access to resources, ideas, and signals**

Peniche, Portugal

One Hour North of Lisbon





**To create a hotspot for entrepreneurial activity,
a flagship in ocean innovation, and
a showcase in circular economy**



The Peladrone Project



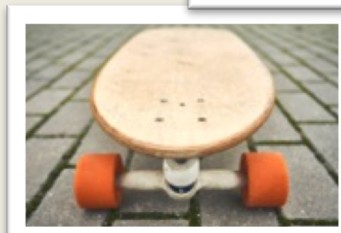
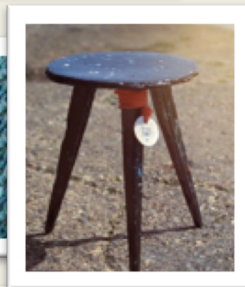
AI and drones for sustainable fishing
and ocean litter cleanup



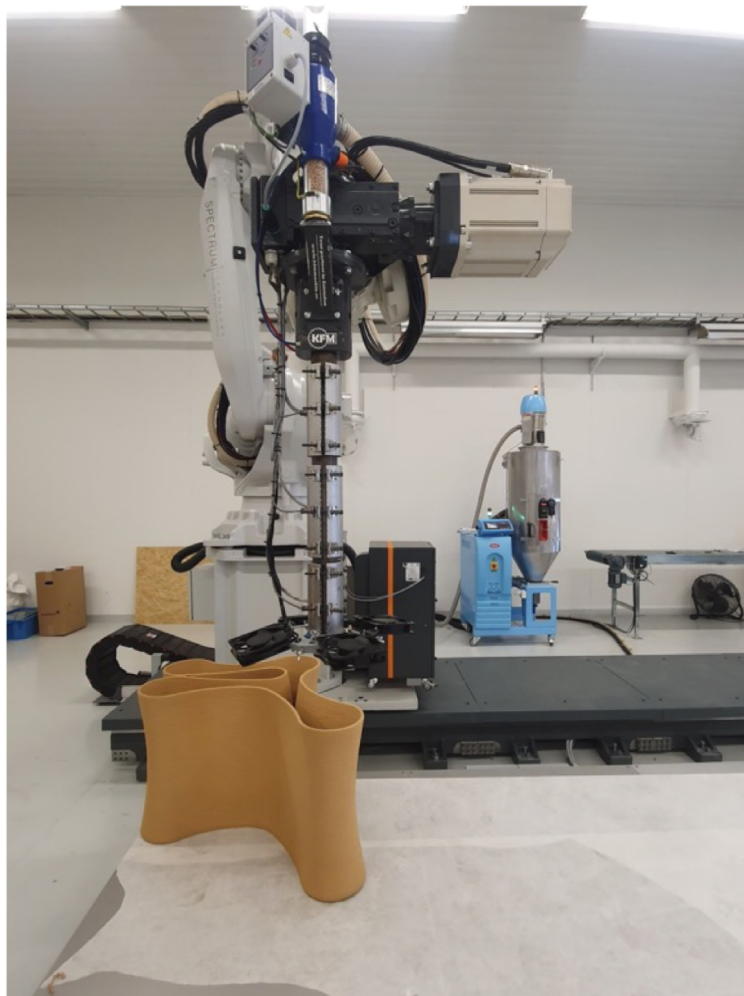
Recycling ocean plastic



NEFAB YOUR PACKAGING SOLUTION.



SCULPTUR



Emerging technologies enable sustainable ocean opportunities

- AI/ML/NN
- Robotics/drones/AUVs/
- Graphene/composites
 - 3D printing
 - IoT/sensors
 - Blockchain
 - Renewables

Documentary on Portuguese National TV



<https://www.rtp.pt/programa/tv/p37509/e4>

The screenshot shows the RTP website interface. At the top, there is a navigation bar with categories: NOTÍCIAS, DESPORTO, TELEVISÃO, RÁDIO, and RTPPLAY. Below this, the page title is "PROGRAMAS TV" followed by "Inspirando o Futuro - SingularityU Portugal". There are three tabs: "SOBRE O PROGRAMA", "EPISÓDIOS" (which is selected), and "REVER NO RTP PLAY". A video player shows a woman speaking, with a subtitle that reads "estamos a não mergulhar no futuro aqui e agora". Below the video player, there are social media icons for Facebook, Twitter, and a plus sign. The "GÉNEROS" section includes a "DOCUMENTÁRIOS" button. The "INFORMAÇÃO ADICIONAL" section shows icons for 12, HD, and other features. The main content area features the name "Robin Teigland" and "Episódio 4 de 13 Duração: 25 min". The text describes her as a co-founder of Peniche Ocean Watch and a project of circular blue economy, focusing on marine fauna. It mentions her recognition in 2017 and 2018 by a Swedish magazine as one of the 125 most influential women in the area of technology. Her research focuses on the convergence of digitalization, strategy, innovation, and entrepreneurship with emerging technologies like 3D printing, artificial intelligence, and robotics. She is passionate about the ocean and surfing. The text concludes that she is the interviewee in this episode of "Inspirando o Futuro - SingularityU Portugal", a program that is a window for thinking about the future.



My TED talk: https://www.ted.com/talks/robin_teigland_circular_economy_and_serendipity

If you love knowledge, set it free!



Robin Teigland

www.robinteigland.com

www.slideshare.net/eteigland

robin.teigland@chalmers.se

[@RobinTeigland](https://twitter.com/RobinTeigland)



**OCEAN
TECH
HUB**

Trond Gunnar Teigland

tgteigland94@gmail.com

www.PenicheOceanWatch.com

[@penicheoceanwatch](https://twitter.com/penicheoceanwatch)

