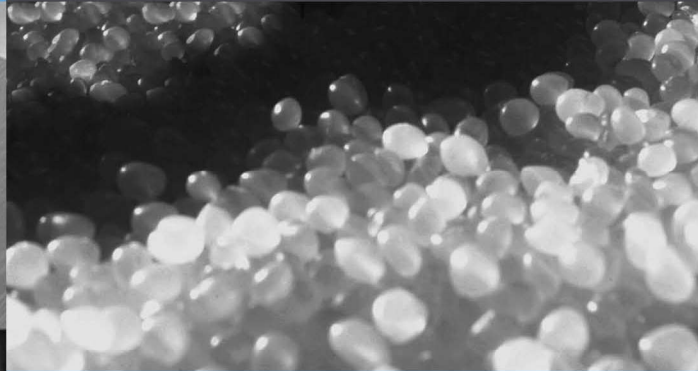



THE INNOVATION NETWORK  
DANISH MATERIALS NETWORK  
Danish Industry portal for materials

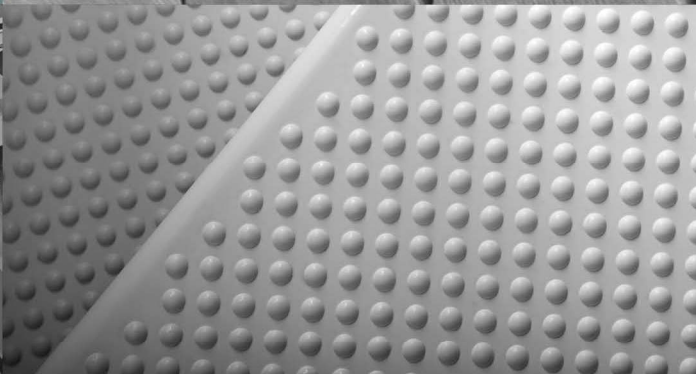


# PRESENTATION OF THE NETWORK

Dorte Walzl Bælum,  
Managing Director



Importance of networks in  
the field of plastic  
processing and plastic  
waste



## The Establishment

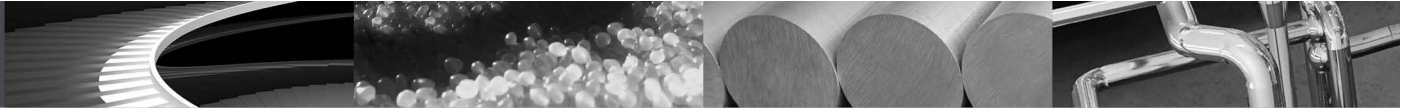
Danish Materials Network is a Danish innovation network continuously working on making Denmark the most innovative country in Europe.

The Network has 140 members and was established in July 2014 as the result of a merger between three individual networks all dealing with materials. Today their activities are run under the names:

- AluNet Dealing with aluminium - facilitated by Plast Center Danmark
- PlastNet Dealing with polymers - facilitated by Plast Center Danmark
- SteelNet Dealing with stainless steel mainly for food processing equipment - facilitated by Staalcentrum

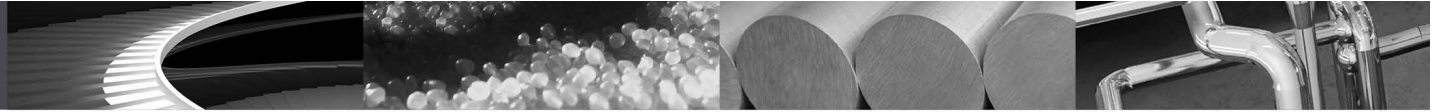
The foundation Plast Center Danmark is administrator of DMN and holds an ESCA Gold Certificate.





# Our Domicile





### **DMNs Professional Focus:**

For Danish companies to innovate the use of materials in order to obtain competitive and unique endproducts. This should be accomplished through systematic development of materials and products combined with the use of advanced production technology.

PlastNet is the largest subnetwork in DMN and is the network for promoting a knowledge based and innovative use and reuse of plastics and composites across different areas of the Danish industry and in collaboration with international partners

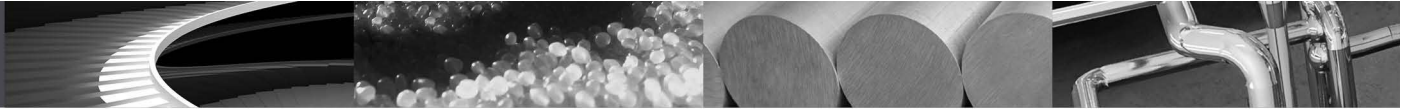
### **DMNs Mission:**

Through the use of materials to ensure that the Danish companies move quicker from idea to product, that they build up new and innovative business areas, that their production is made as flexible as possible and that they are using sustainable and secure materials and technologies.



## Our People





## Our Competences

- Knowledge about aluminium, polymers and steel at specialist level
  - Selection of materials
  - Test of materials - mechanical, thermal and chemical
  - Statistical planning of experiments
- Bridge building between industry and universities
- Matchmaking, networking and sharing knowledge
- Arrangement of events
- Internationalization
- Courses
- Project management, project administration & project application

## Partners in DMN



### Other co-operation partners:

- DAMRC
- Dansk Designcenter
- Food & Biocluster Denmark
- Erhvervshusene
- Gate 21
- CLEAN
- Lifestyle and Design Cluster
- Netværk for Bæredygtigt Erhverv
- Ocean Plastic Forum
- European Enterprise Network
- ECCP 4
- PERCY

**Knowledge Bank:**  
Ressource people from  
the public and private  
companies





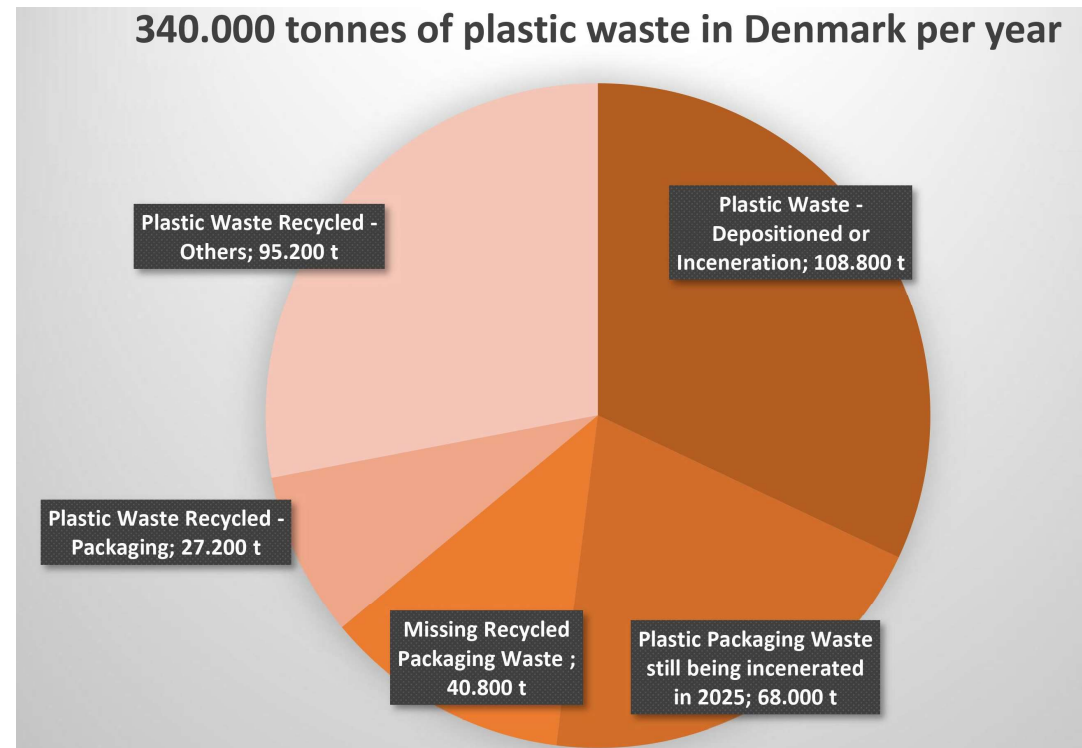
## DMN Focus: Reduction of the Danish Plastic Waste

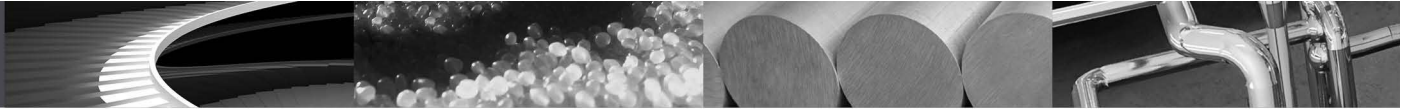
Plastic is a fantastic material, but every year 340.000 tonnes of plastic waste is generated by Danish companies and private households. 40% of the waste originates from packaging and can only be used once. The rest of the plastic waste is deposited or incinerated.

New ambitious targets set by the EU obliges the member countries to recycle 50 pct and 55 pct. of all plastic packaging waste in 2025 and in 2030 respectively.

With a new method of calculation it is estimated that approx. 20 pct. of the plastic packaging waste is recycled. In other words we have a task to do.

Recycling of an additional 40.800 t plastic packaging waste in 2025!



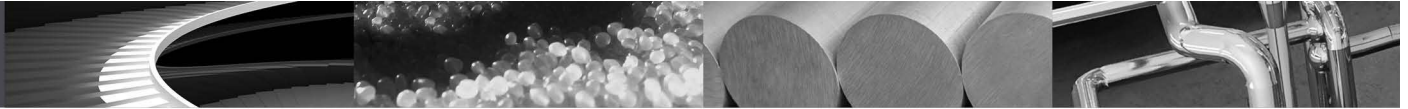


## Export of Danish Waste Plastic

The end to the Chinese importation of plastic waste has not had a great impact on Danish plastic waste.

Denmark exported only about 3,000 tons of plastic waste to China in 2017. On the other hand, like other western countries, Denmark exports a lot of our plastic. The amount varies year by year, but can go as high as about 50 percent of its plastic waste.

Waste is big business and is traded between countries all over the world. In 2017, Denmark exported 48,251 tons of plastic waste. 58 percent of the plastic ended up in Germany, which exports large quantities of plastic to Asia.



## 1-Day Events

In DMN we are working on a series of knowledge transfer- and development activities. In these activities we cooperate with universities, Research and Technology Organisations and private companies.

We conduct workshops, seminars, courses and arrange company visits.

Companies can be directly involved in terms of bringing a case, which all the knowledge institutions and universities will try to solve. Or they can simply be involved as a listener.

Our motto is that DMN is the network, where networking is based upon specific, technical issues.

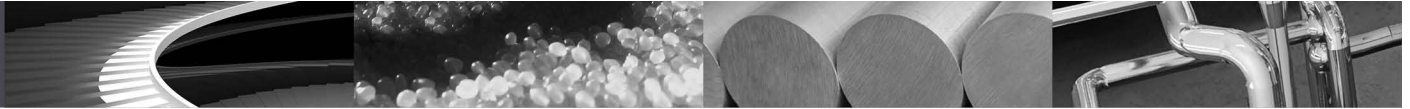
## 1-Day Events

The network where networking is based upon specific technical issues

In 6 years DMN has arranged more than 120 events with about 4.000 participants.

In DMN we are in close contact with the private companies - especially the SMEs but also the large companies.



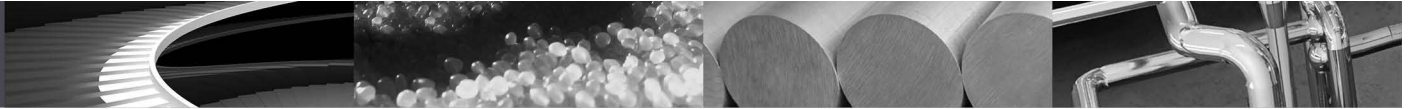


## DMN Projects

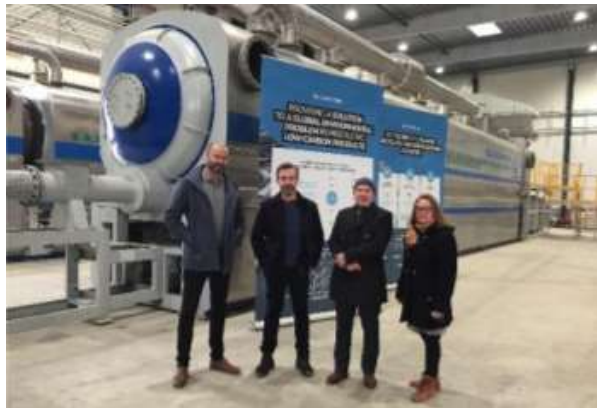
We conduct smaller demo cases and larger projects with specific topics. Some of our current projects:

- Development of biobased packaging for fresh seafood
- Reuse of plastics - pyrolysis of residual plastic fractions
- Collection, analysis and possible reuse of plastic debris from the aquatic environment
- Circular Economy HUB - reuse of plastic packaing waste from households
- Circular Economy HUB - private - public cooperation regarding reuse of plastic waste
- Examination of single use tents and air mattresses on festivals
- Examination of ocean plastic - focus on pellets
  
- Recycling of PA
- Use of recycled plastic in window profiles
- Adopt a beach
- Use of ocean plastic waste - macro waste
- Pyrolysis of problematic plastic waste
- Extended producers responsabilty - packaging

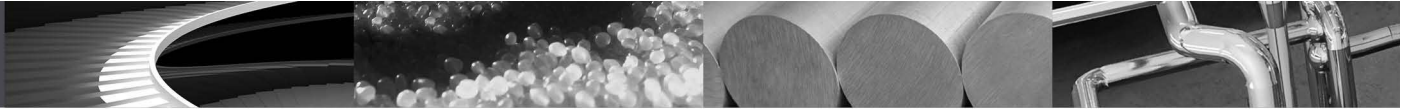




# Examples of Plastic Recycling Projects

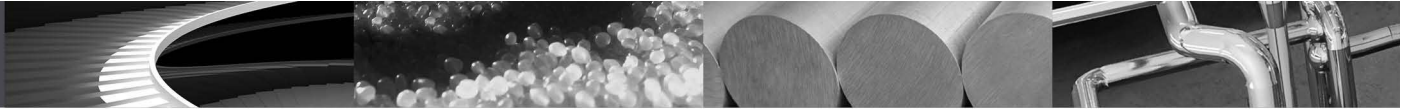






## Internationalization:

- Innovation Express - Fokus on the medical device industry in Ireland
- Innovation Express - Fokus on the thermoset industry in Lithuania
- Innovation Express - SUSFOOTECH a promotion of Danish equipment manufacturers for the food process industry in Germany
- Innovation Express - Fokus on packaging and process equipment in Catalonia
- Innovation Express - Focus on Cross Sectorial Cooperation with Lithuanian Industries
- Innovation Express - Materials Excellence Cooperation with German cluster
- Innovation Express - Sustainable materials for marine purposes for the Danish and Norwegian plastics and metal industries
- Horizon 2020 Net
- **PERCY - EU Cosme project - international plastic recycling project**



## PERCY - EU Cosme project

International plastic recycling project



This project is a joint collaboration between the following European clusters:

- WFG - German cluster
- Polymeris - French cluster
- SPK- Slovakian cluster
- DMN facilitated by Plast Center Danmark - Danish cluster

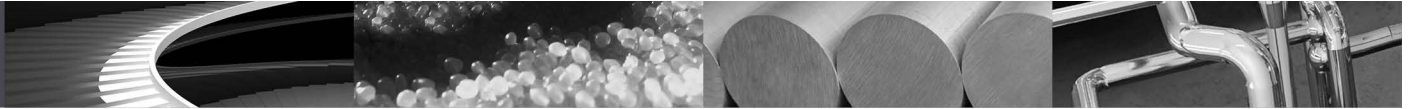
Collaboration focused on recycling of materials and eco design in various industrial sectors.

The consortium partners have come together to explore how an intensified cluster and business network collaboration across borders can meet this challenge and exploit the international business opportunities related to the topic.

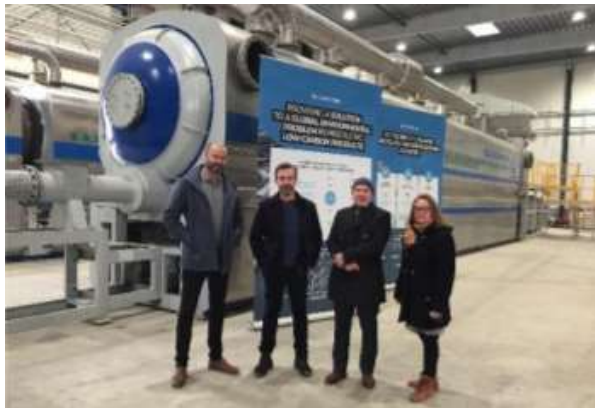
The consortium will meet the objective by development of a joint internationalization strategy towards countries outside Europe.

Target countries are:

USA, Canada, Israel and India



## DMN projects with international potential



- Pyrolysis of plastics

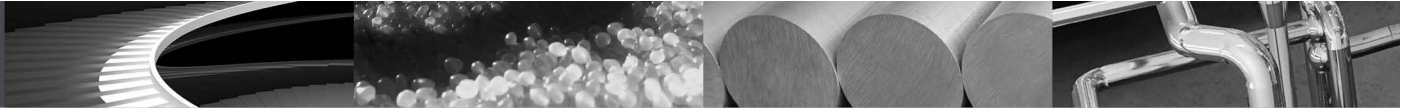


- Mechanical recycling of plastic waste



- Reuse of debris from the aquatic environment





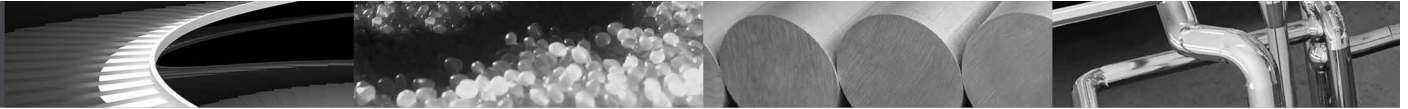
## Danish Companies Working with Plastic Recycling:

### Mechanical recycling:

- Aage Vestergaard Larsen
- Dansk Affaldsminimering
- Plastix
- RC Plast
- Letbek
- Genplast
- Trebo
- Compsoil
- Redivivus

### Chemical recycling:

- Quantafuel
- Waste2Value
- Plastcon/Makeen Energy
- Reaktor
- Waste Plastic Upcycling

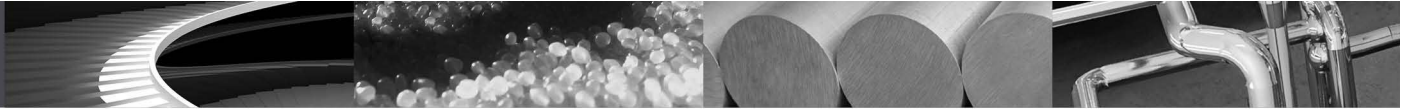


## The Importance of Networks:

DMN is a very successful network with 140 members.

The members participate for various reasons:

- Many good seminars and meetings
- Many good projects where universities, knowledge institutes and companies work together to develop, test and implement innovative solutions
- Many good connections national as well as international
- Groups opens doors
- Easier to go international through a network



## Contact information:

Thank you for your attention.

If further information is needed please do not hesitate in contacting us in our office:

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