



# TREESearch

THE NATIONAL PLATFORM FOR NEW MATERIALS AND  
SPECIALITY CHEMICALS FROM FOREST RAW MATERIAL



**2014.12.08**

**WWSC Seminar at KTH:  
the first step towards  
TREESEARCH**





# How to move

Photo: Tumba Bruksmuseum



500 nm



# into the future

Photo: KTH



Attract the young  
talents

Increased cooperation academia  
and industry

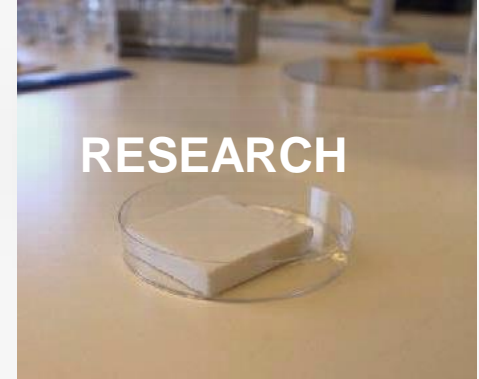
More research





# TREESEARCH

a world-leading research environment that contributes to the development of skills and knowledge that enables future innovation in the field of new materials from the forest





Wood and wood components – structure and modification 1	Biorefinery for materials and chemical systems 2	Material forming of solid and liquid material systems 3	New materials – material design and properties 4
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Wallenberg Wood Science Center 2009-2028

Project B

Project C

Project D

Project E

Project F



Education



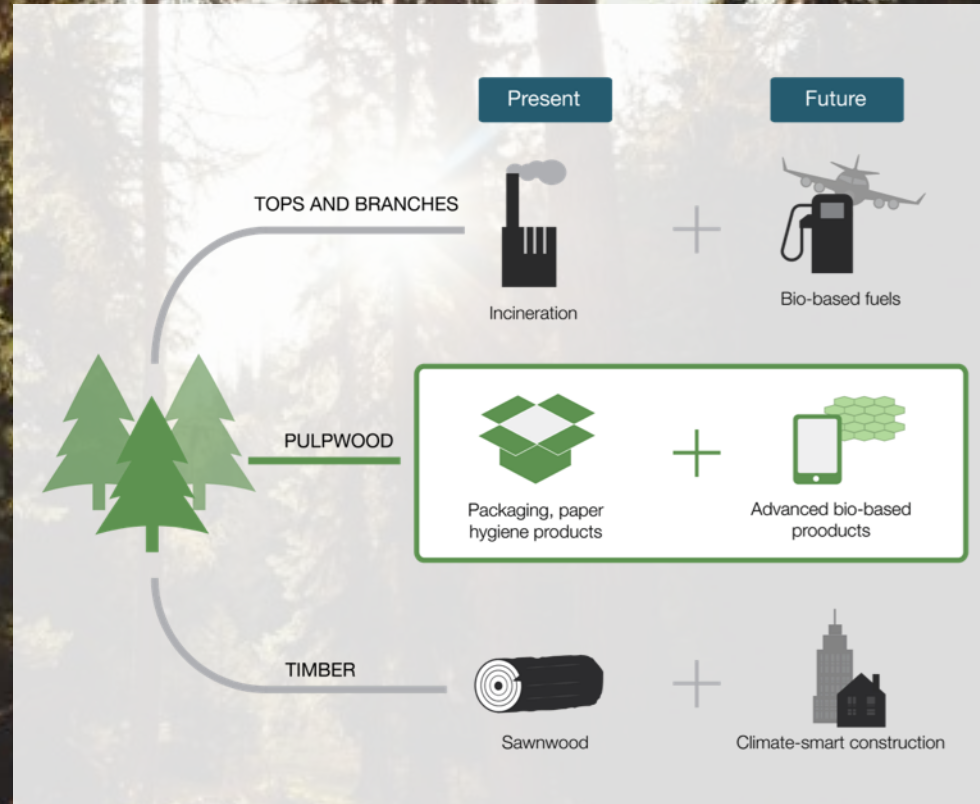
Cooperation



Research infrastructure

# MATERIAL FROM SWEDEN'S MOST IMPORTANT ASSET: THE FOREST

A CARBON DIOXIDE NEUTRAL  
AND RENEWABLE  
CONTRIBUTION TO THE  
CLIMATE GOAL



TRESEARCH

# Present partners in Treesearch

- Universities
  - KTH, Chalmers and LiU, (MiUn)
- Industry
  - BillerudKorsnäs, Holmen, SCA, Stora Enso and Södra, (Ahlström Munksjö)
- Partners sign a Consortium Agreement (2017-2018)
  - Ensures co-financing of WWSC 2.0





A NATIONAL PLATFORM IS MADE POSSIBLE BY  
COOPERATION BETWEEN **ACADEMIA** AND **INDUSTRY**  
WITH FINANCIAL SUPPORT BY THE **GOVERNMENT** AND  
**PRIVATE FUNDATIONS**

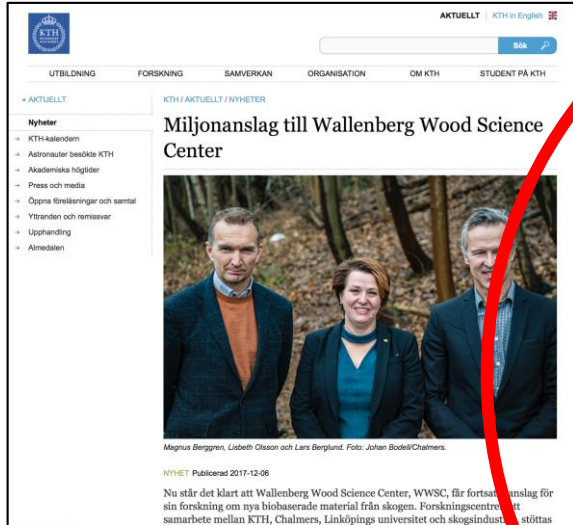


TREESEARCH



# The efforts are building up ...

KAW – 400 MSEK to WWSC 2.0



The screenshot shows a news article on the KTH website. The title is "Miljonanslag till Wallenberg Wood Science Center". Below the title is a photograph of three people: Magnus Berggren, Lisbeth Olsson, and Lars Berglund. The article text mentions that the Wallenberg Wood Science Center (WWSC) has received a million SEK grant for research on new bio-based materials. The article is dated 2017-12-08.

Universities (KTH, Chalmers and LiU)  
– 220 MSEK to WWSC 2.0



The screenshot shows the ForMAX website. The main heading is "ForMAX – wood research for a better future". Below the heading is a 3D architectural rendering of the ForMAX laboratory facility. The website also features a navigation menu with options like "About us", "Science", "Accelerators & beamlines", "Users", "Industry", "Training & education", and "Safety".

KAW – 100 MSEK to ForMAX

Industry 125 MSEK to Treeseach -2028  
(whereof 100 MSEK to WWSC 2.0)



The screenshot shows a news article with the title "Storsatsning på nya material från skogsråvara". Below the title is a photograph of a dense forest. The article text describes the launch of TREERESEARCH, a national platform for bio-based materials and specialty chemicals from forest raw materials. It mentions that this is Sweden's largest investment in research and innovation in the area, with a total budget of approximately 400 million SEK.

VINNOVA/BioInnovation 70 MSEK to  
Treeseach -2021



# ADVANCED ANALYSIS

characterisation of  
material properties  
and process steps



TREESEARCH



# ForMAX – a tool for developing the future Biorefinery



*Rick Kimpel*

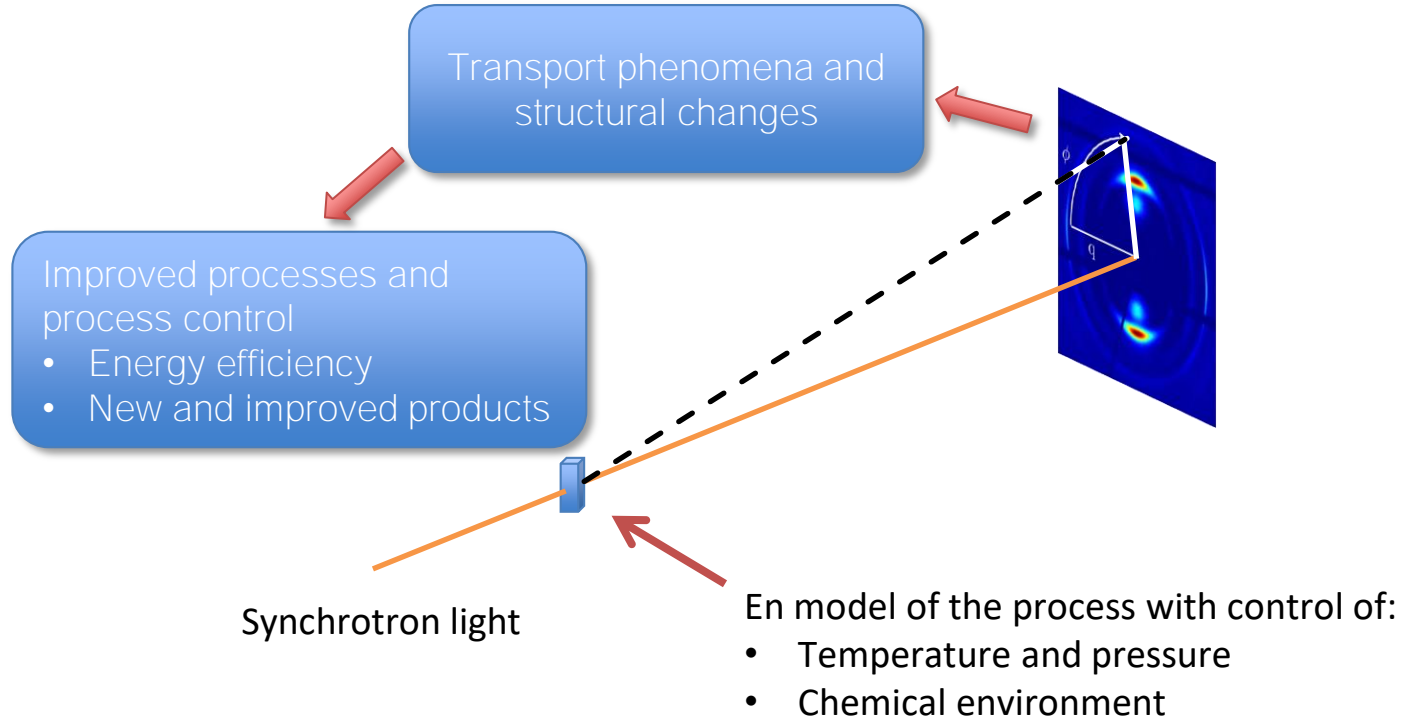


*TAPPI*

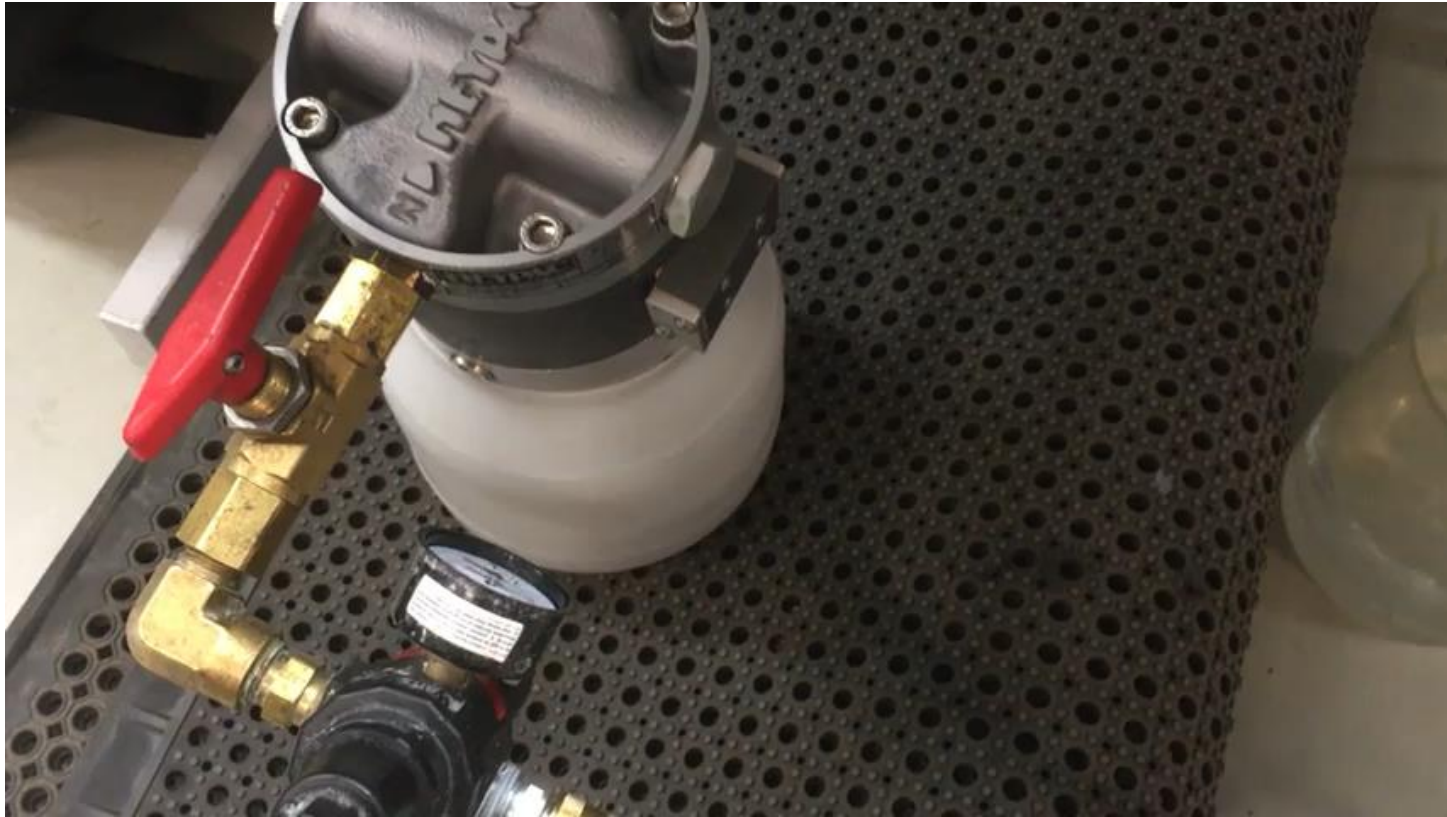


*BillerudKorsnäs*

# How could this be achieved?

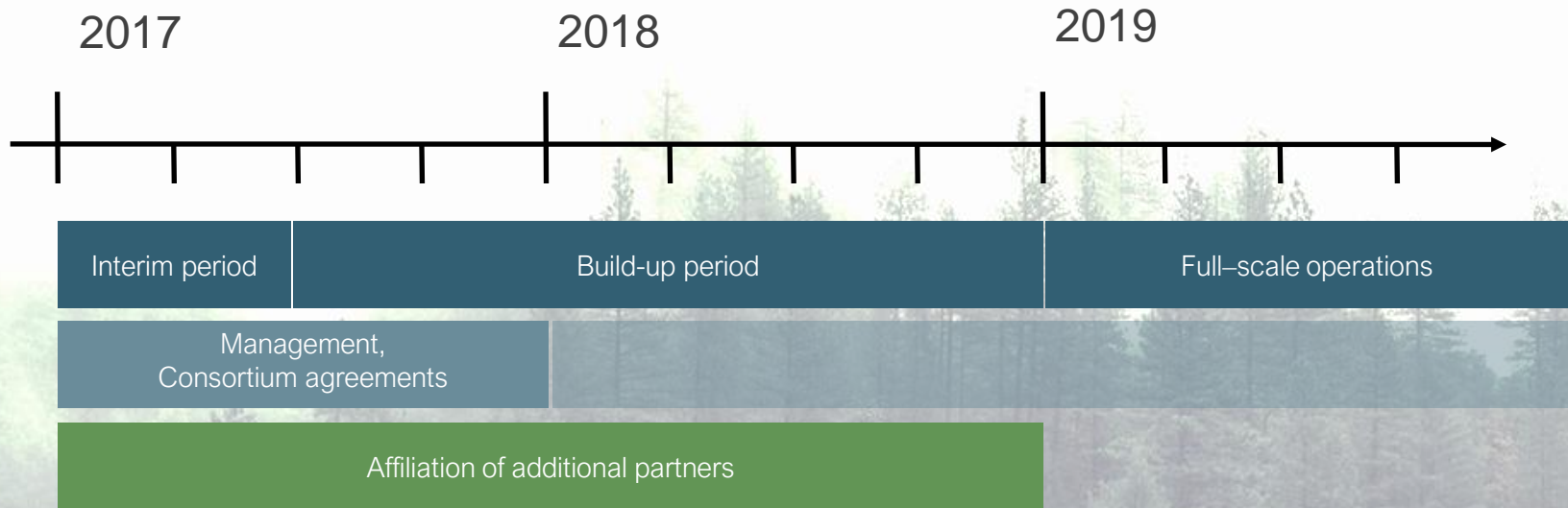


# Synchrotron light as a tool for developing an energy efficient process for nanocellulose production





# TIMELINE



TREESEARCH



# TREESEARCH

CHALMERS



li.u LINKÖPINGS  
UNIVERSITET

BILLERUDKORSNÄS

HOLMEN



storaenso

SÖDRA

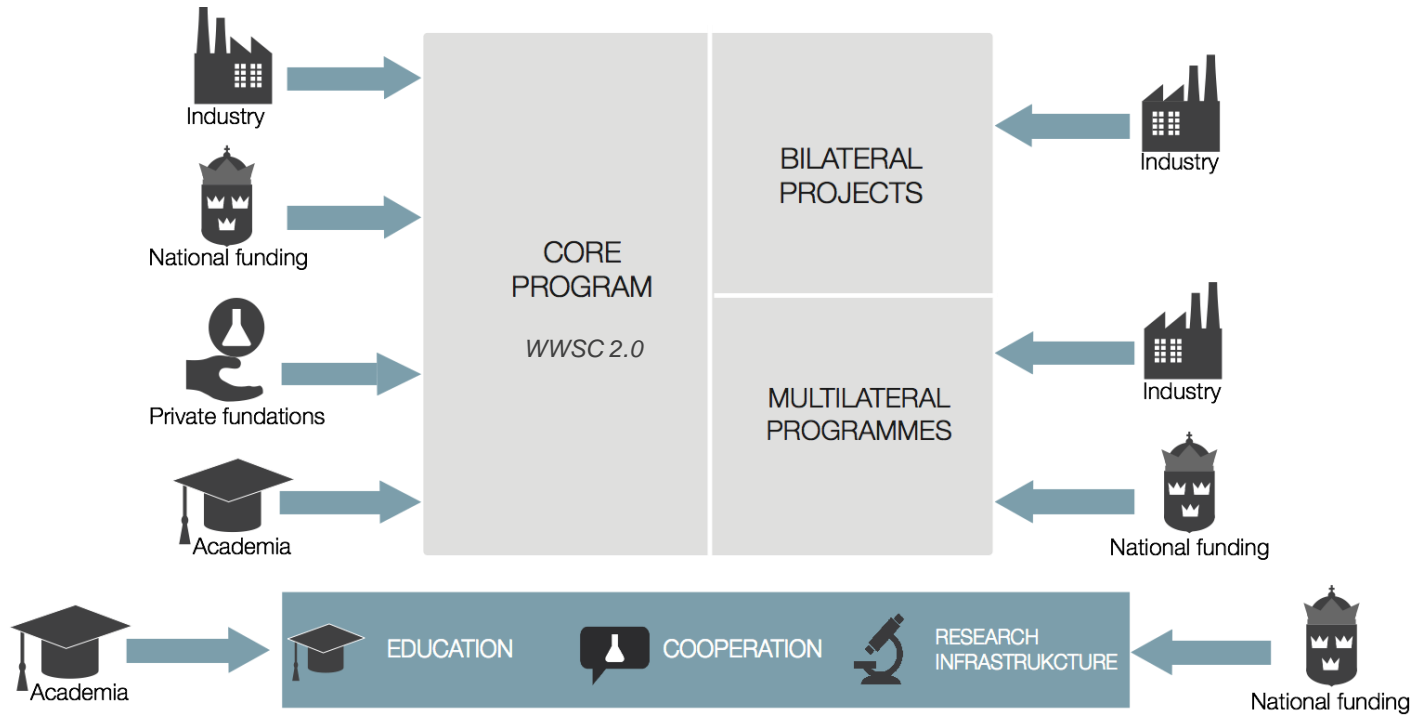
SCA  
Care of Life

# RESEARCH: FOUR THEMATIC RESEARCH AREAS

1. Wood and wood components – structure and modification
2. Biorefinery for materials and chemical systems
3. Material forming of solid and liquid material systems
4. New materials – material design and properties



# FINANCING OF TREESEARCH



# **PARTICIPATING IN TREESEARCH: MULTIPLE OPTIONS FOR INDUSTRY AND ACADEMY**



**INDUSTRIAL CORE PARTNER**

**ASSOCIATED PARTNER**

**SME PARTNER**



**AKADEMIC CORE PARTNER**

**ASSOCIATED RESEARCHER**

# PARTICIPATION- **INDUSTRY**

	Core partner	Associated partner	SME partner
Co-financing and 'First look' of excellence research in the scientific disciplines (and technologies) of TREESEARCH	✓		
Courses and training	✓*	✓	✓
Access to world-class research infrastructure, analysis service and support	✓**	✓	✓***
Invitation to workshops (W) / seminars (S) / conferences (C)	<b>W/S/C</b>	<b>C</b>	<b>C</b>
Contacts for future recruitment through regular contacts with PhD students	✓	✓	
Direct access to faculty members	✓**		
Representation on the Board of TREESEARCH	✓		
Participation in mobility programs	✓		
Platform of influence and strategic coordination regarding funding from research councils, etc.	✓		

\* Reduced cost of participation

\*\* Core partners has a personal contact/key account manager within the National research platform

\*\*\* SME access programme

# PARTICIPATION- ACADEMY

	Core partner university	Associated researcher
Representation on the Board of TREESEARCH	✓	
Platform of influence and strategic coordination regarding funding from research councils, etc.	✓	
Co-financing and 'First look' of excellence research in the scientific disciplines (and technologies) of TREESEARCH	✓	✓
Access to world-class research infrastructure, analysis service and support	✓	✓*
Development of <sup>1</sup> and invitation to <sup>2</sup> workshops (W) / seminarier (S) / konferenser (K)	W/S/K <sup>1,2</sup>	W/S/K <sup>2</sup>
Direct interaction with industry and access to industry-driven research challenges	✓	✓
Development of <sup>1</sup> and invitation to <sup>2</sup> courses and trainings	✓ <sup>1,2</sup>	✓ <sup>2</sup>
Development of <sup>1</sup> and invitation to <sup>2</sup> participation in mobility programmes, research school and carrier support	✓ <sup>1,2</sup>	✓ <sup>2</sup>

A researcher can work with research at either a university, research institute or at a company

\* Access to research infrastructure at reduced cost

\*\* All PhD students, industrial PhD students and postdocs have access to the research infrastructure



# Wallenberg Wood Science Center

- First period 2009-2018
  - 450 MSEK from Knut och Alice Wallenberg foundation
- New period 2019-2028 (WWSC 2.0, planned)
  - 400 MSEK from Knut och Alice Wallenberg foundation
  - 100 MSEK industry (through Treesearch)
  - 220 MSEK universities (KTH, Chalmers and LiU)
  - 18+18 MSEK Treesearch call within Bioinnovation 2018-2020
- Focus on fundamental research related to new material concepts!