Is wood really a material for the 21st century?
If you ask us, wood is the most modern material you can use today. It is renewable, environmentally friendly, aesthetically pleasing, versatile and energy efficient. Just to mention a few advantages.

It can be used for everything from furniture to fireproof and climate-friendly large-scale construction projects. Wood's versatility provides you the opportunity for innovative architecture, both for the interior and exterior, that can not be matched by any other material.

Soon wood can even be used as a raw material in your clothing.

There are no limits.
We make your visions of wood products and technologies a reality.

The presence of heartwood can be measured in both spruce and pine with a technique developed by SP. The measurement is based on the propagation of light on the wood surface.

EcoBuild excellence centre is developing bio-based binders for wood products. The project Smart Bridges is developing methods to remotely monitor structures. For example, a bridge can be equipped with instruments that measure movements of the bridge under traffic loads and various wind conditions.

The competence platform SP Wood Metrics is developing new measurement techniques for the Swedish wood industry. Pictured below is an X-ray equipment with software developed by SP.
SP Wood Technology

Wood Industry
SP Wood Technology has a wide range of activities, covering all aspects of industrial conversion in the wood industry. We assist sawmills with developing new technology and methods, enabling them to deliver high quality products in a cost-efficient manner. We are also involved in the development of measurement and process control technologies for the wood industry.

Material Development
We work with a wide range of materials coming from the sawmill, taking part in the development of wood and other biobased materials with a focus on durability, efficiency, and environmental impact.

Building with wood
We help you with:
- Certification
- Textiles
- Modified new types of anti-corrosive coating systems.
- WoodLife
- AkuLite – Acoustics and vibrations in timber buildings.
- More timber - less sawdust

Quality Control and Certification
SP Wood Technology offers certification of management systems for quality (ISO 9000) and environment (ISO 14000) as well as certification for CE marking of numerous products, e.g. panels, structural timber, glulam and poles. SP’s own quality and certification systems, the P-System, is offered for prefabricated timber framed buildings, restorations, and additions. Quality control and certification of pressure-treated wood is provided according to the Nordic Wood Preservation Council regulations.

Experimental Resources
Our laboratories in Borås and Svedala have facilities for many types of measurement, including X-ray, microwave tomography for timber measurements and for CO2 efficient production. Furthermore, we are involved in development of industrial tomography for timber measurements and for CO2 efficient production.

Quality control and certification
SP Wood Technology is the major player in wood technology research and related areas in Sweden. Our research activities are distributed by large national projects, such as:
- WoodBuild, regarding forest and timber.
- Building with wood, regarding forest and timber.
- National Winner’s Day, regarding various life issues.
- Akalit – Acoustics and vibrations in timber buildings.

Examples of Current Projects

More timber - less sawdust
This project, opened together with Luleå University of Technology, aims to acquire knowledge and develop the necessary equipment to increase the yield of sawn timber by two percent in the sawmill process. The project achieved the use of thinner saw blades, more defined shrinkage and reduced sawdust. The overall goal of the project is to be able to control and predict the process by responding to the unique characteristics of each piece of wood. At present, the scope for improvement on process control is entirely underpinned, because efficient methods for characterisation in real time have only recently become widely available.

Akalit – Acoustics and vibrations in lightweight buildings
The Akalit project, coordinated by SP Wood Technology, is a large Swedish project involving all major research institutes, industries and universities. It focuses on improved energy efficiency by e.g. restoring/retrofitting existing buildings, thereby decreasing the energy consumption and reducing carbon dioxide emissions. The overall goal of the project is to develop low-cost, lightweight building systems that are becoming more common in the Nordic countries. However, even if current building code regulations are met, residents may experience noise and vibrations in buildings differently, depending on structural systems. The aim of the project is to develop more relevant sound and vibration criteria, as well as verification methods. The new knowledge will be implemented in international research and standardisation, to create a foundation for improved building acquisitions in lightweight structures.

Textiles from cellulose
The interest in producing textiles from wood has grown dramati- cally in recent years as a consequence of increasing pos- sibilities of cotton and other conventional fibres. Cellulosic is a large wood research project that builds on the development of new sustainable processes for producing textile fibres from wood. This has led to a new project, , in which a small pilot factory will be built. Since 2011, SP Wood Technology also co-ordinates the , which is a four year international research programme, which works towards creating a more sustainable textile and fashion industry. Participants in this project include three institutes, nine organisations and com- panies, including 5, and is generously financed by the Swedish Research Council.

In order to provide a high quality and informative service to all our customers, SP Wood Technology is continuously working to improve the quality and usefulness of our information. SP Wood Technology is a member of the Stockholm University of Technology and the Royal Institute of Technology. In Stockholm and Borås we have equipment for durability testing, chemical analysis and mechanical testing. SteelCoat also operates a small pilot laboratory for biological-based preparations. Laboratory facilities for acoustic, mechanical and environmental testing are also available at our offices in Växjö and Linköping.

Strong Research Environment
We lead and participate in several competence platforms and centres of excellence, e.g. programmes for developing competence and long-term research environments in strategically important areas. SP Wood Metrics develops new methods of measurement based on X-ray tomography for wood and timber technology. SP’s own in-building section is focused on improved energy efficiency by e.g. retrofitting existing buildings. This project is to develop and enable environmental friendly materials for future use.

More timber - less sawdust
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SP Wood Technology

Wool Industry
SP Wood Technology has a wide range of activities, covering all aspects of industrial conversion in the wool industry. We assist spinners with developing new technology and methods, enabling them to deliver high-quality products in a cost-efficient manner. We are world leaders in the development of measurement and process control technologies for the wool industry.

Material Development
We work with a wide range of materials coming from the sawmill, allowing us to develop new and other biobased materials with particular focus on durability and eco-efficiency and, in recent years, dissolving cellulose for textile manufacturing. We have qualified resources for research as well as testing for a large range of materials and products, particularly coating and adhesives.

More Use of Wood in Buildings
An important part of our activities is enabling an increased use of wood for floors, bridges, and in building frames. We have unique expertise in respect of acoustics, vibrations and fire safety.

National
SP Wood Technology is the major player in wood technology research and related areas in Sweden. Our research activities are distributed by large national projects, such as Woodbuild, regarding service life issue.

Quality Control and Certification
SP Wood Technology offers certification of management systems (ISO 9001, ISO 14001, and ISO 10900) as well as the international FSC and RFS certification systems for sustainable forestry. We also offer inspection, testing and certification for CE marking of numerous products, e.g., a parent, structural timber, glulam and sps. Our own quality and certification systems, the FSC system, is offered for prefabricated timber framed buildings, for instance, and aseans. Quality control and certification of pressure treated wood is provided according to the Nordic Wood Preservation Council regulations.

International
On the international level we are actively involved in ECO2 and Woodwork4 timber projects as well as in standardisation through CIQ/ISC. Among ongoing joint projects we:

- Five soil timber buildings, in which SP Wood Technology project aiming at creating a common guideline, fist publicised in Swedish as Blasorakta Vals V.5.
- Woodlife, focusing on improving adhesives and dried wood working with the help of nanotechnology.
- Steelcoat, using nanotechnology for the development of new types of anti-corrosive coating systems.

Furthermore, we are involved in development of industrial tomography for timber measurements and for CO2 efficient wood construction the ECO2 project.

SP Wood Technology also hosts the Secretariat for the International Research Group on Wood Processing (IRG) and is a member of the organizing committee for various international conferences, such as the European Conference on Wood Modification. Staff members are also members of COST CST (Collaboration in Science and Technology) Actions.

Quality Control and Certification
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Experimental Resources
Our laboratories in Borås and Skellefteå have facilities for many types of mechanical testing. An advanced kiln drying plant is located in Sawmills and facilities for CT scanning of logs can be found at Luleå University of Technology (LTH). In Stockholm and Borås we have our equipment for durability testing, chemical analysis and visual and end use forest analysis. The secretariat for an international research programme, which works towards creating a more sustainable building industry and cities, is based in Stockholm and Luleå.

Structure and Environment
We lead and participate in several competence platforms and centres of excellence, e.g., for programmes for developing competence and long-term research investments in strategically important areas. SP Wood Metrics develops new methods of measurement, based on X-ray, microwave tomography and acoustics in lightweight structures.

Textiles from cellulose
The interest in producing textiles from wood has grown dramatically in recent years as a consequence of increasing prices of cotton and other natural fibres. Cellulose is a large wood research project with the aim of developing new sustainable processes for producing textile fibres from wood. This has led to a new project, ForTex, in which a small pilot plant will be built. Since 2011, SP Wood Technology also coordinates Metrico, a four-year international research programme, which works towards creating a more sustainable textiles and fashion industry. Participants in the project include three institutes, nine organisations and companies, including Riddar and its universities from three different countries. The research programme involves developing new technologies for processing fibres from wood, as well as converting wood into cellulose-based fabrics and discovering new applications for these products. In the future, it is expected that the project will lead to the development of new textile products and processes that are more environmentally friendly and sustainable.
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Wood Industry
SP Wood Technology has a wide range of activities, covering all aspects of industrial conversion in the wood industry. We assist sawmills with developing new technology and methods, enabling them to deliver high quality products in a cost-efficient manner. We are world leaders in the development of measurement and process control technology for the sawmill industry.

Material Development
We also work with a wide repertoire of materials coming from the sawmill, taking part in the development of wood and other biobased materials with particular focus on sustainable, energy efficient and, in recent years, dissolving cellulose for textile manufacturing. We have qualified resources for research as well as testing for a range of materials and products, particularly coating and adhesives.

More Use of Wood in Buildings
An important part of our activities is enabling an increased use of wood for bridges and multi-storey buildings. We have unique expertise with respect to acoustics, vibrations and fire-safety.

Quality Control and Certification
SP Wood Technology offers certification of management systems (ISO 9001) and environment (ISO 14001) as well as for the international TSC and FSC certification systems for sustainable forestry. We also offer inspection, testing and certification for CE marking of numerous products, e.g. a parent, structural timber, glulam and poles. SP's own quality and certification systems, for example, is offered for prefabricated timber framed buildings, retail stores and office. Quality control and certification of processed timber is provided according to the forestic Wood Preservation Council regulations.

Experimental Resources
Our laboratories in Borås and Skellefteå have facilities for many types of measurement, including microscopes and small and large scale fire testing. Testing of furniture takes place in a heat chamber, using nanotechnology for the development of new types of anti-corrosive coating systems. Furthermore, we are involved in development of industrial tomography for timber measurements and for CO2 efficient wood construction like ECO2 project.

WoodBuild
SP Wood Technology also hosts the Secretariat for the International Research Group on Wood Product (IGWP) and is a member of the organizing committee for numerous international conferences, such as the European Conference on Wood Modification. Staff members are also members of COST (Co-operation in Science and Technology) Actions.

National
SP Wood Technology is the major player in wood technology research and related area in Sweden. Our research activities are distributed over large national projects, such as:

- Woodbuild, regarding forest life issues.
- AkuLite, pertaining to acoustics and vibrations in timber buildings.

These and other projects are carried out in collaboration with industry and universities. SP Wood Technology takes active part in the project "Thickslab 2012". Other contracts in modern day 2010, is a project concerned with automation of knowledge in modern wood construction.

International
On an international level we are actively involved in EUDP and WoodMRQnet and projects as well as in standardization through CEN and ISO. Among ongoing projects we have:

- Five sawtimber buildings, a Helsinki project aiming at creating a common guideline, first publication in Swedish as Bohärad Värde 3.
- WoodLife, focusing on improving adhesives and one component with the help of nanotechnology.
- Steelcut, using nanotechnology for the development of new types of anti-corrosive coating systems.

Furthermore, we are involved in development of industrial tomography for timber measurements and for CO2 efficient wood construction like ECO2 project.

Healthier Buildings
In the future, we will be implementing in international research and standardisation, to create a foundation for improved building acoustics in lightweight structures.

Examples of Current Projects

More timber - less sawdust
This project, operated together with Luleå University of Technology, aims to acquire knowledge and develop the necessary equipment to increase the yield of saw timber by new patented timber sawing process. The project started with the use of thinner new blades, more defined drainage and reduced saw dust. The overall goal of the project is to be able to control the production process by responding to the unique characteristics of each piece of wood. At present, the scope for improved process control is entirely underutilised, because efficient methods for characterisation in real time have only recently become widely available.

WoodLife – Acoustics and vibrations in lightweight buildings
A huge Swedish project involving all major research institutes, industries and stakeholders in the field of lightweight buildings. Driven by sustainability, industrialisation and cost reductions, multi-storey dwellings with lightweight structures are becoming more common in the Nordic countries. However, even if current building code regulations are met, residents may experience noise and vibrations in buildings differently, depending on structural systems. The aim of the project is to develop more-relevant sound and vibration criteria, as well as verification methods. The new knowledge will be implemented in international research and standardisation, to create a foundation for improved building acoustics in lightweight structures.

Textiles from cellulose
The interest in producing textiles from wood has grown dramati- cally in recent years as a consequence of increasing concerns of cotton and polyester chemicals. Cellulose is a large Swedish research project, which aims at developing new sustainable processes for producing textile fibres from wood. This has led to a new project, ForTex, in which a pilot plant will be built. Since 2011, SP Wood Technology also co-ordinates the ForTex project, a four year international research programme, which works towards creating a more sustainable textile and fashion industry. Participants in the project include three institutes, nine organisations and com- panies, including 119, and is financed from three different countries. The research programme involves designing biodegradable fibres in new revolution of textile processes in cellulose, development of innovative materials as well as encouraging sustainable consumption.
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It can be used for everything from furniture to fireproof and climate-friendly large-scale construction projects. Wood’s versatility provides you the opportunity for innovative architecture, both for the interior and exterior, that cannot be matched by any other material.

Today, we can treat and process wood in a way that can provide new features and functions, while at the same time minimizing waste and preserving our forests. This makes wood a safe and sustainable alternative in comparison to more energy-intensive materials.

Soon wood can even be used as a raw material in your clothing. There are no limits.

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More information about us at www.sp.se

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