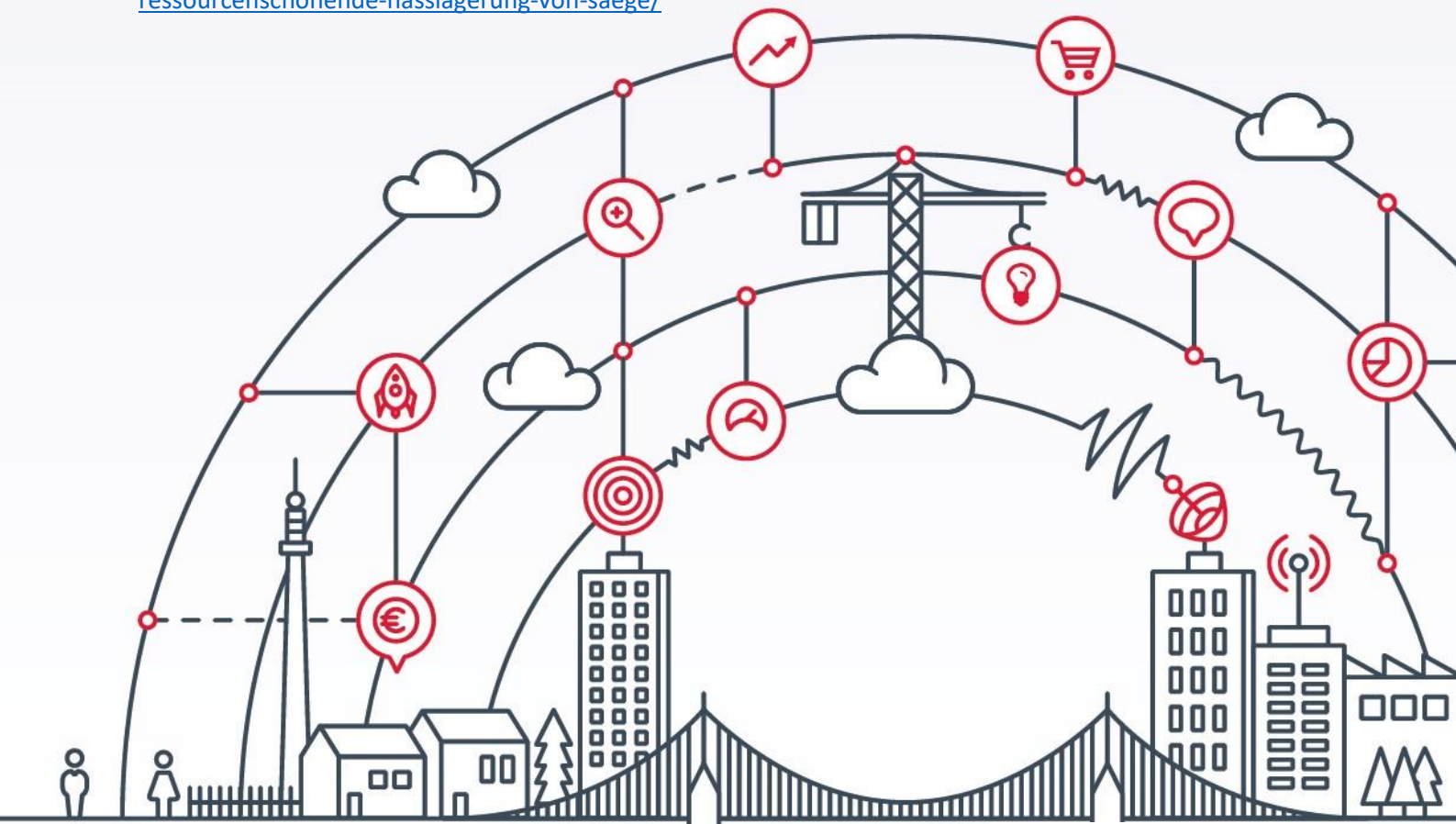


Efficient and resource-saving wet storage of timber with sensor technology, automation, remote monitoring

This is a translation – for the original challenge description, contacts and submission got to: <https://www.ioeb-innovationsplattform.at/challenges/detail/sensorik-automatisierung-fernueberwachung-effiziente-und-ressourcenschonende-nasslagerung-von-saege/>



An initiative of

 Federal Ministry
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Digital and
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 Federal Ministry
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Climate Action, Environment,
Energy, Mobility,
Innovation and Technology

In cooperation with

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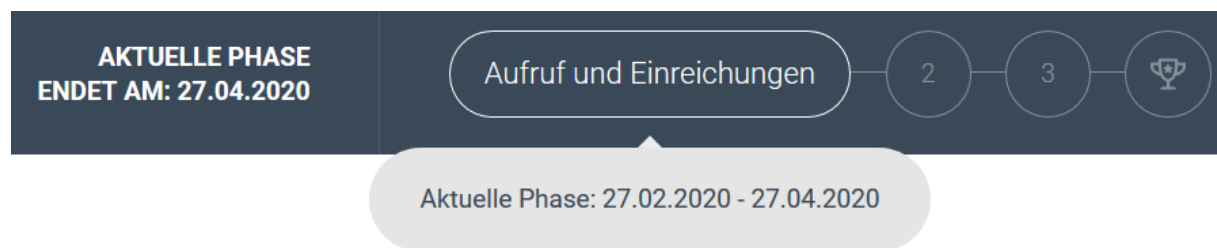
Challenge Sponsor

[Austrian Federal Forests](#)



Last day for your contribution

27 April 2020



Status Quo

The Austrian Federal Forests (ÖBf AG) manage and cultivate 10% of the Austrian national territory. The company is the largest nature area supervisor and manager, the largest forestry enterprise and the largest owner of hunting and fishing areas.

Due to climate change and the increasing amount of vermin damaged timber, the Federal Forests operate wet storage facilities for the conservation of high-quality round timber. The humidity of round wood stored outdoors is increased to >100% by artificial irrigation and maintained throughout the entire storage cycle (well above fibre saturation of 28-32%). This measure relieves the market of supply peaks on the one hand, and on the other hand damaged wood can be processed in time and breeding grounds can be deprived of bark-breeding forest vermin (e.g. bark beetles).

Wet storage facilities are approved by public authorities. Such storage facilities hold between 5,000-50,000 Erntefestmeter (efm) of round timber. The water consumption is currently approx. 1 l/s for 1,000 efm. Approx. 20,000 efm can be stored on one hectare. The maximum pile height is currently 5.5 m. During the first months of storage the stock is growing. It is then stable for one to two years of the storage operation. The dissolution is first announced by trial deliveries to customers.

The Austrian Federal Forests operate wet storage facilities as required - there are currently some throughout Austria, including the regions Upper Styria, Carinthia, the Salzkammergut and the Innviertel.

Main Question

How can innovative sensor technology and control systems interact in such a way that the operation of wet storage facilities for the conservation of high-quality sawn round timber can be resource-saving, efficient and largely automated?

Desired situation

The Austrian Federal Forests would like to innovate its wet storage facilities to increase efficiency. The concrete goals are:

- to keep the downtime in wet storage operation low
- to optimise the consumption of water
- to optimise the consumption of electricity or fuel (in the case of pumps driven by aggregates)
- optimise the workload involved in the daily monitoring/maintenance of wet storage operations

Extensive automation is aimed for. After the experiences in the past operation, the Austrian Federal Forests have in mind a system with the following components:

- sensor technology
- automated and regular data transmission (partly real time)
- intelligent pump control
- incident reporting system
- remote monitoring technology and remote control (from the office)

Solutions for the agricultural irrigation sector are partly suitable in terms of materials and control technology. However, a control system optimised for the application is currently unknown to the Austrian Federal Forests. In order to maintain the quality of the wood, it is necessary to ensure a wood moisture content of > 100%. In order to optimise the consumption of resources, the effective natural humidification (air humidity, precipitation, aggregate state, temperature, wind) must be included as a factor.

In the cockpit for those responsible for the operation, at least data on wood moisture, air humidity, precipitation, wind, temperature or flow rate, operating pressure, pump performance and energy consumption should be combined. Measurement data on the water level at the water withdrawal point and in the settling basin are also important. It must be possible to retrieve the data easily on mobile devices.

Instructions for proposals

>> Your company is able to design and deliver a complete system that corresponds to the functional description?

>> Your company has an innovative component (best: self-developed), which should be taken into account in the design?

>> Your organization has specific (exclusive) expertise that should be included in the design or construction?

Click on the button "Submit solution". Please prepare the following:

A description (Beschreibung)

Outline how you see the system "sensor-controlled wet storage" and your contribution: What elements could the sensor-controlled wet storage system consist of? What is the best way to achieve automation? How do you manage to save resources while ensuring the quality of the wood? Which partners do you have on board or are you still looking for in order to optimally cover the entire range of services?

Describe reference projects with similarities and work out the relevant references to the project.

Summary of the added value (Mehrwert)

Focus on innovation: Get to the heart of the unique selling proposition and decisive advantages. Make it clear what is special about your proposed solution or why you should be the first point of contact for market discussions and possible implementation.

Which stumbling blocks would you like to point out to the Austrian Federal Forests (technically and with regard to the project)?

Confidential information for the jury (vertrauliche Informationen; other than the rest: not public)

Give us an impression of what your proposal means financially and in terms of project costs for an initial system (planning, technology, installation, operation). This helps the public client to design the procurement project in the right framework. For a better understanding, describe this information in relation to the reference project. We do NOT expect a detailed cost breakdown. For the time being, it helps us to locate estimated costs in rough categories:

- A. up to EUR 25,000;
- B. up to EUR 50,000;
- C. up to EUR 100,000;
- D. up to EUR 200,000;
- E. up to EUR 400,000
- F. More than EUR 500,000.

A cover picture

This is your key visual on the Challenge page.

Optional: A pdf file as upload

The file should supplement the description but not replace it! Use it e.g. for graphics or use existing brochures. Do not overload the jury members and interested parties.

NOTE: Submissions together with partners are possible. Keep it short (guideline: three A4 pages or ten presentation slides in total). We are currently exploring the market with the Challenge. Therefore, the following is not yet necessary for participation to arouse interest: completely new concepts or feasibility studies that have been developed especially for this event. It is about conveying an idea and competence.

Benefits of the challenge and further course of the project

The Austrian Federal Forestry will receive an overview of the solutions and potential partners for discussion and implementation through submissions to this challenge. The jury of internal experts then invites those companies whose submissions stand out particularly positively to an innovation dialogue.

For companies this means: They put themselves forward for public sector purchasing projects. By participating in the Challenge, you get on the radar of the public client. Your submission remains visible as your business card even after the Challenge is over. If you are among the winners and are invited to the final innovation dialogue, you can present your solution at a market discussion. You will exchange ideas directly with the project managers. Be optimistic: Please keep **June 16th, 2020** free for the Innovation Dialogue in Purkersdorf or via video conference.

Participation creates sensitivity and understanding on the part of the public client for suitable innovations and solutions. This is important so that the public client, after the market exploration, can consider innovative company approaches in the possible purchase project in line with the Federal Procurement Law.

Depending on the results, the further project plan provides for the following:

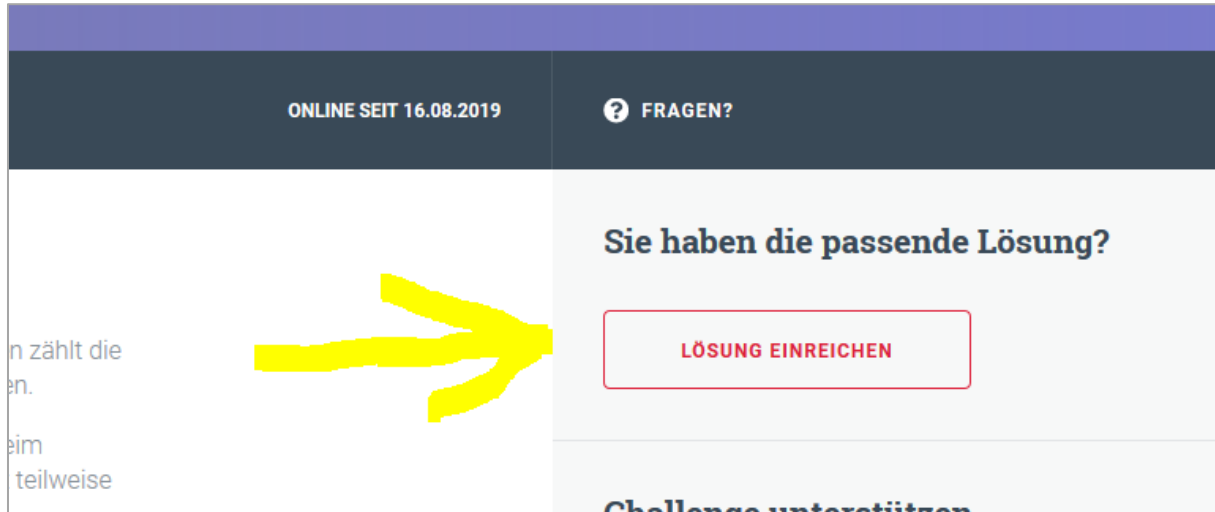
For the further procedure, a possible commissioning of the design, construction and operational support of a pilot facility and possible further facilities is considered.

Your Questions

Contact the moderators or post your question about the Challenge. Our moderators will check, research and publish your question together with the answer. This way, all potential participants are certain to receive the same information.

How to submit a solution/idea

Go to the challenge page. Click on the button "Lösung einreichen" on the top right side of the page.



- Beschreibung
Post a meaningful description (make references to the description of the challenge and evaluation criteria on the right side of the challenge page)
- Mehrwert
Highlight the benefits of your solution.
- Titelbild
Upload a picture to be displayed on the landing page of the challenge.
- Kooperationspartner
If you are handing in a joint contribution with other companies, this is where you make sure they are represented with logos and names.
- Dateien & Infos
If necessary in addition to the descriptions above: add pdf-files (e.g. existing product brochures). But: Keep your contribution manageable for the jury.
- Vertrauliche Infos
If necessary, place a confidential information for the jury, the sponsor and moderator (e.g. indication of approximate price range). All other parts of the contribution will be public.

Please be aware of the fact, that a challenge is market research / market engagement prior to a possible procurement. The challenge will not decide upon a contract award nor will it lead to any unfair advantage in a tender. Please balance your time and effort.

Contact Information

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