European Project Forwarder2020 Interview

Interview: Felix Prinz zu Hohenlohe-Waldenburg, CEO of Hohenloher Spezial Maschinenbau GmbH & Co KG (HSM), expresses his views on the challenges taken up by the European Project Forwarder2020

The Forwarder2020 project is coordinated by HSM, a forestry machine developer and builder located in Neu Kupfer (Germany). In this interview, Felix Prinz zu Hohenlohe-Waldenburg, CEO of HSM and expert engineer of forestry machines, takes the time to express his views about the challenges taken up by the Forwarder2020 project and the future of the forestry machines market. A great opportunity to learn more about the growing links between forestry machines efficiency, environment and wood exploitation.

The company **Hohenloher Spezial Maschinenbau GmbH & Co KG (HSM)** was established in 1967 and has been dedicated to the **development and production of high performance forest machines ever since**. The range of its products includes in addition to articulated forest skidders, also forwarders and harvesters as well as harvester-heads. HSM is considered as one of the largest manufacturers for timber harvesting machines in Central Europe. It offers, in contrast to Scandinavian competitors, **optimized forest technology for middle European conditions**. In combination with high quality standards, a very good service and a strong focus on customer needs, HSM is one of the most innovative manufacturers of forest machines. The relatively heterogeneous forest conditions in Central Europe and the associated necessity of finding adequate solutions for the logging companies are challenges to HSM and need a permanently high level of innovation.

Short Biography

Felix Prinz zu Hohenlohe-Waldenburg is the owner of HSM and CEO since 1996. He holds a diploma in Mechanical Engineering of the Technical University of Munich.
He gained practical experience from 1991 to 1996 in the R&D field of Mannesmann-Rexroth in Lohr am Main.
His expertise is mainly in design of forest machines, mobile hydraulics, and control systems. He is the coordinator of the European project Forwarder2020.

FORWARDER 2020 SUSTAINABLE AND SMART LOGGING

Project funded by the European Union's Horizon 2020 Research and Innovation programme under the Grant Agreement n°727883

Mr. zu Hohenlohe, HSM, as a SME, is one of the most innovative manufacturers of forest machines in Central Europe. You are the coordinator of the Forwarder2020 project. Why did you decide to form this consortium of experts and to create this project?

HSM is producing forwarders and knows about the state-of-the-art of the necessary technology in detail. We also see the restrictions and potential for improvement every day. The forwarder market, at least in Europe, is a saturated market with a few big suppliers who are delivering rather similar machines. The customers, in the vast majority forest contractors, are under massive cost pressure, and the prices for their service are very low. Under these circumstances, there is not much room for the necessary investments into improving ecological, that is, soil-preserving or energy-saving, aspects, or into monitoring critical aspects of the timber harvest, such as overloading the forwarder and damaging the paths on which the machine is being driven.

These are the main fields of potential improvements at which HSM and the Berner Fachhochschule (partner in the project) are aiming for. On the other hand, financing this major development within the limited budget of a medium sized forest machine manufacturer is not possible. Ten years ago, HSM already successfully managed to get funding for the development of innovative technologies through European innovation programme under the SME instrument.

The European Programme for Research and Innovation HORIZON2020 offered the amazing chance to turn these attempts of innovation into a reality. It was very important that the program would not be limited to SME and research institutes, but also enabled the cooperation with large companies, which are typically producing the drive train components.

These considerations led to HSM´s decision to set up the consortium and apply for EU funding.

What are the main (strategical) objectives of HSM within the forestry machine market?

HSM is the market leader for crane skidders and combination machines for the Central European market and is making up more than half of its turnover in this field.

Considering cut-to-length machines, that is, harvesters and forwarders, HSM`s market share is very small worldwide and about 10% in Germany. Here, HSM is producing forest machines often with specifications which competitors do not offer and which are more adapted to the working conditions of Central Europe. This refers to soil preservation on sensitive ground, slopes, hardwood and mixed stands, and harvest of heavy timber with compact forest machines in selective thinning.

A new challenge is the short wood harvest in mountainous regions with a low density of forest roads such as in the Carpathians. Here long hauling distances and the existing forwarder technology create a demand for more forest roads, which would have a major impact on the wildlife of the largest natural forest left in Europe.

With the new technology developed within the Forwarder2020 project, HSM wants to push the specific abilities of this next generation of forwarders to strengthen its position on these markets.

How is the Forwarder2020 project aligned with your objectives? And why is the HSM team working in Forwarder2020 so excited about the project?

Since more than twenty years HSM works towards developing forwarders well adapted to Central European demands. According to what was said before, Forwarder2020 works exactly towards this direction and will have a major impact on the road to environmentally friendly, well adapted and energy efficient forwarders for Europe. More information on the different functionalities can be found on the project website.

It is very interesting for the HSM developers to work with their counterparts of large companies that develop hydraulic and mechanical components, considering their resources and technical background. Also, here HSM´s technicians have enough time and resources for a serious and professional development directly in cooperation with forest contractors, scientists and suppliers. This is of high added value for all of them and then for the company.

What is your view, as machine manufacturer, on the future of forestry machines in Europe? What paradigms will have to be changed? Where do you see the main changes in a near future?

The market for the dominating cut-to-length machines enjoyed a fast development between 1990 and 2000. Since then, the innovation rate was rather low and the machines reached a certain saturation in performance, reliability and environmental compatibility. A large part of the new developments had to do with the emission regulations Euromot Stages TierIII, TierIIIb, and TierIVfinal. At the moment, the industries´ R&D departments are busy with Stage V.

In contrast, the more difficult timber harvest, especially in selective thinning, has been neglected in many regions due to high labour costs. For the mechanized cut-to-length technology, the standard forest machines reach their limits and the large suppliers are not interested in adapted solutions and special machines.

Here HSM is supplying these machines and will present very attractive solutions, especially for wetland and long hauling distances.

The other strong trend for the next decades will be the drive technology of the future´s forest machines. The diesel engines are under pressure from environmental regulations. A medium-sized forest machine manufacturer is not in the position to develop an alternative power source and rather has to watch the supplier market for suitable new developments. But HSM must do its best to reduce the fuel consumption of its fleet of forest machines. Within Forwarder2020 there are two major developments for the transmission and for the crane drive, which shall save more than 30% of the fuel consumption. This will put HSM into the leading position in the segment of energy efficient forwarders.

What will be the impact of Forwarder2020 on the forestry machines sector and on logging activities in general? (Added-value for foresters and wood industry)

There will be forwarders available which can work efficiently in challenging terrain, and which are more soil preserving and energy efficient than the state-of-the-art. This can help the foresters to avoid damaging the forest soil and encourage more social acceptance of the wood industry.

Especially the efficiency on long hauling distances will give the option to preserve the wildlife, especially in the Carpathians, and still enable an efficient forestry, which supplies timber to the wood industry and absorbs a large amount of carbon dioxide.