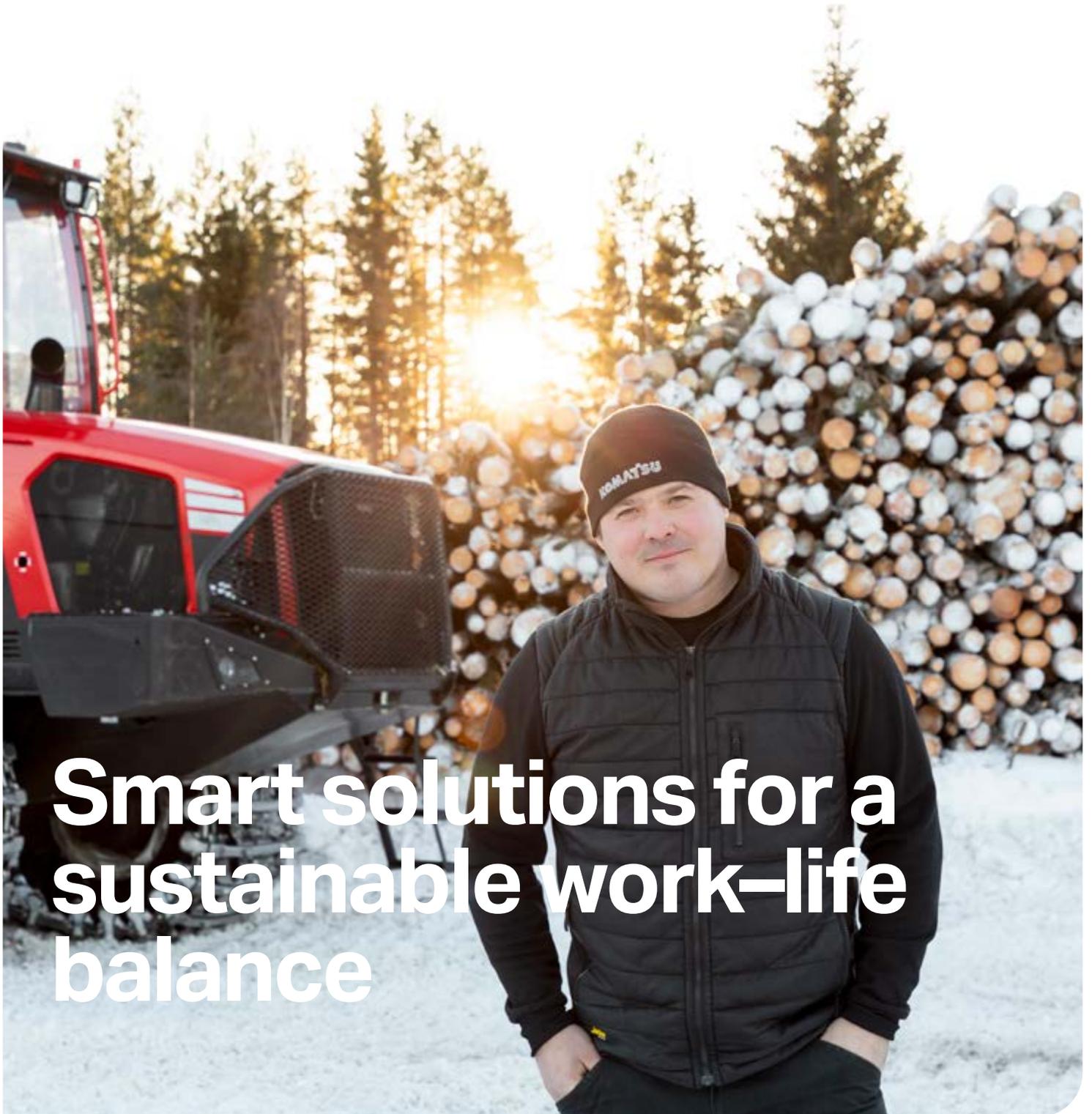


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1/2024

Just **Forest**

International Magazine from Komatsu Forest



**Smart solutions for a
sustainable work-life
balance**

KOMATSU



Nordic quality that lasts

Cooperation between companies
with cutting-edge technology

indexator.com

 **Indexator**

What is sustainability?

This question is high on our agenda and has not one but many answers. We've chosen to divide sustainability into three components, and we want to create a sustainable future where people, our operations and our planet can develop together – with together being key.

As for our planet, we have ambitious environmental goals and aim to be fully carbon neutral by 2050. While not an easy task, we are making steady progress in this area. When our production facility in Umeå became fully carbon neutral in June 2023, an important piece of the puzzle fell into place, and the facility's favourable work environment also benefits our employees. Our day-to-day work environment is central to maintaining a sustainable work-life balance. And, naturally, this also applies when your workplace is the cab of a forest machine.

We consider it important to take care of you as an operator, and we hope that you appreciate the ergonomics and work environments of our machines, as well as the smart solutions we offer to help you in your work. Our new Smart Forestry concept, which you can read more about in this magazine, comprises a collection of digital services that help

make your workplace safe, smart, productive and sustainable. This is an area where we see great potential for the future and hope that you'll join us in these endeavours.

This magazine will also offer insight into some of our customers' working days, which can vary greatly depending on the environments in which they work. And be sure to read the article about the French family business that produces wooden posts for local vineyards.

We'll also look back 40 years into the past, to the time we produced one of the world's first single-grip harvesters and our era of innovation began. With that story in mind, we can conclude that an incredible amount has happened in the subsequent years as we embark on the exciting journey towards the electrification of our forest machines. These efforts are essential if we're to achieve our goals, and, even though we face major challenges, we're convinced that it's such challenges that give rise to innovations – innovations that are necessary if our mutual future is to be sustainable.



ANNELIE PERSSON,
GM BRAND &
INFORMATION

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Combining agriculture and forestry



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Novel innovations for demanding terrain

Just Forest / International magazine

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KOMATSU

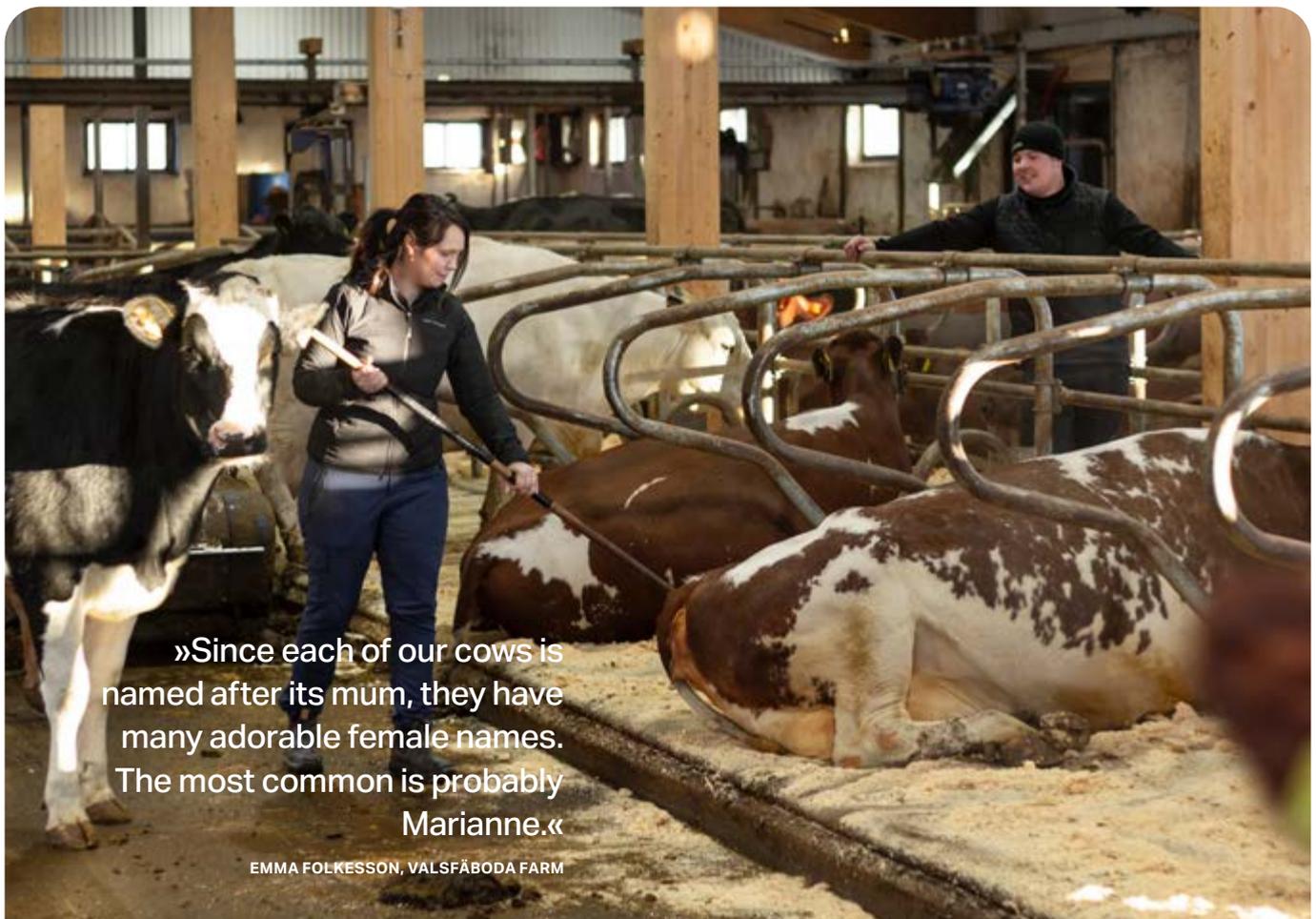
Seventh generation at Valsfäboda Farm

It's a sunny winter day in January when we visit Valsfäboda Farm in northern Sweden. Anton and Emma Folkesson live in the red farmhouse with their children, Karl-Gustav, 5, and Kerstin, 1. They're the seventh generation to live here on the farm, where there's always something to do and no two days are alike.

Emma takes us on a tour of the farm. The barn extension was completed last year and is now home to some 70 dairy cows.

"Since each of our cows is named after its mum, they have many adorable female names. The most common is probably Marianne," Emma smiles.

The cows make their own way to the milking robot, and the milk tanker, which comes by every other evening, usually leaves with about 3,500 litres of milk each time. The farm is adorned with long rows of tools and equipment – everything needed to keep things rolling.



»Since each of our cows is named after its mum, they have many adorable female names. The most common is probably Marianne.«

EMMA FOLKESSON, VALSFÄBODA FARM

As we return to the house, so does grandma Gertrud, having picked up her grandchildren from preschool. Without her help, they wouldn't be able to cope. The youngest, Kerstin, is in the midst of the preschool induction process, giving Emma more time for the farm.

"Gertrud is at the heart of the family," says Emma. "She's also in charge of the company's book-keeping. Nothing would work without mum and dad, it's almost like a multigenerational home. My dad, Arnold, is 85 and still works in the barn every day."

Emma grew up here on the farm and has always dreamed of taking over after her parents. Anton was a little difficult to persuade at first, but in 2018 he agreed. Emma's parents were quick to move out when told that their daughter wanted to take over, building themselves a new house a hundred metres or so from the main building.

"I always said I'd never become a farmer," Anton laughs. "But it's great while the kids are small. It's more of a lifestyle."

A family business with many forest machines

The house in which the family lives was built in the early 1800s and has undergone several transformations over the years. When the family took over the farm, they wanted to make their mark on the house and have renovated it meticulously to suit a family with small children.

The initial idea was to stick to farming, but Anton wasn't quite satisfied. He also grew up on a farm, but now oversees a family business that has a large number of forest machines.

"I'm a little too restless to be at home all day," Anton explains. So, while the couple were in the midst of planning their wedding, Anton decided to invest in forest machines once again and start a new sideline.

"When another contractor retired, I had the opportunity to take over his



»Forestry is so much fun as you never really learn to master everything.«

ANTON FOLKESSON
WITH DAUGHTER KERSTIN, 1

patch," says Anton. "I had in fact planned to quit forestry work. But it's so much fun as you never really learn to master everything."

Fields and forests complement one another

Since 2020, alongside the farming, they also run forestry operations with a forwarder, a harvester and three employees. Operators Sven Jonsson

and Torbjörn Olofsson have extensive forestry experience.

"They started harvesting before I was even born," says Anton.

Emma and Anton both agree that having two legs to stand on provides extra peace of mind, and that the fields and the forests complement one another well. While the agricultural side involves constant work, the forestry side is more flexible with faster turnarounds.





Anton Folkesson likes to mention his service agreements, which make day-to-day operations that much easier. With ProAct's new service intervals, the mechanic visits more often and downtime is reduced.



During summer and spring, when there's less to do in the forests and more to do on the farm, Anton spends more time at home working on the farm.

When the thermometer read -38°C, the machines had to stay home

"My operators are extremely independent, so I only help out when needed, such as when moving between assignments and the like," says Anton. He also likes to mention his service agreements, which make day-to-day operations that much easier. "With ProAct's new service intervals, the mechanic visits more often, bringing spares with them, which reduces downtime."

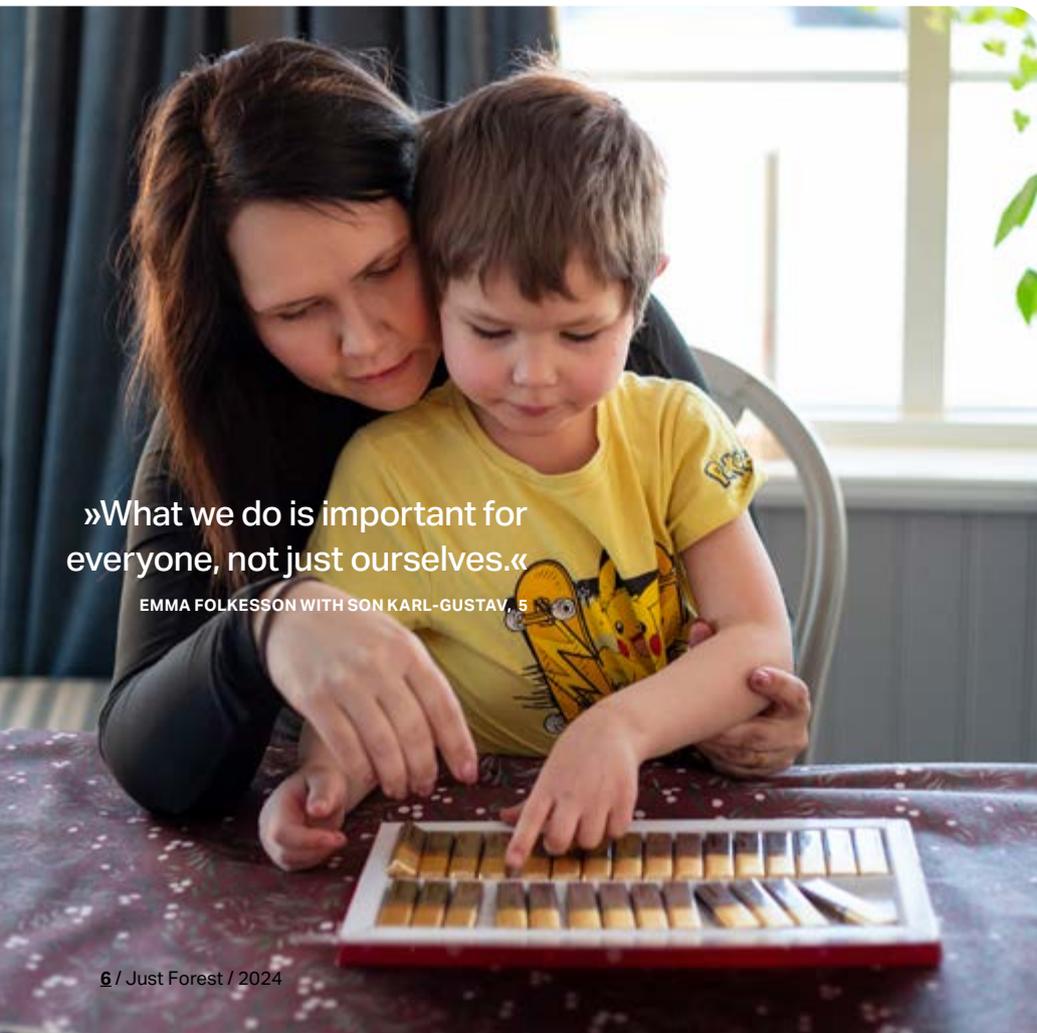
"Look how clean our hands are – we don't need to fiddle with anything," Anton laughs while showing his hands. "We hardly even have to tighten anything these days, the machines are so reliable. The harvester has clocked up 6,000 hours and hasn't been to the workshop once! We've barely washed it – it's incredible."

When the thermometer read -38°C at the beginning of the year, however, the machines had to stay home.

"When it's below minus 20, we're not so keen to operate them, but it's been years since it was this cold," operator Sven confirms before continuing his working day out in the forest.

"Three people operating two machines enables us to work extremely effectively," Anton explains. "This way, we can be flexible with regards to what needs to be done, and the afternoon shift can operate the machine that's most needed. We never need, for instance, to leave felled timber in the snow. It's very efficient; we utilise a lot more machine hours this way.

"You can even do most of the administration from the machine today, but most times I do it from



»What we do is important for everyone, not just ourselves.«

EMMA FOLKESSON WITH SON KARL-GUSTAV, 5

home. After we've put the kids to bed, that's when office hours begin.

"The family puzzle is the biggest challenge – work is much easier." Anton usually heads straight for the barn when he returns from the forest. And while he picks up the kids sometimes, this mostly falls to Emma or Gertrud. "We're so lucky, the kids feel so comfortable with their grandparents."

On weekends, the family gathers in the barn

He occasionally takes time out to do something with the kids, but otherwise the weekends are family time. The two farm employees mostly work on weekdays, so the family gathers in the barn on weekends.

"We've chosen to do most things ourselves then, which is really nice," says Emma. Big brother Karl-Gustav likes spending time with the cows and is adventurous and fearless just like his parents.

Even Emma's days vary a great deal. She heads to the barn before seven to take care of morning duties, and once the children have been dropped off at preschool, she moves on to feeding the animals and other tasks.

"It's difficult to say exactly how the day will turn out, but we try to finish up around four in the afternoon," says Emma. "Then it's time for dinner and some quality time with the kids before they go to bed." At about nine in the evening, they usually make one last round of the barn, washing down the floor and ensuring that the cows are settled for the night.

"We've managed to get things to work even though Anton works long days, sometimes fifteen hours," says Emma. "But I'm used to having a dad who worked a lot." And while Anton is a visionary, Emma is more realistic. Her focus is on everyone's wellbeing – the children, the animals and everyone else involved.

"I think it's important to feel that

you're doing something worthwhile," she says. "I'm extremely proud of the fact that we produce food. People in our line of work understand their importance and that what we do is important for everyone not just ourselves."

"But you can't forget to be business-minded, you have to understand that you're self-employed and can't worry about the hours," Anton adds.

"We're almost never sick ourselves," says Emma. "But if the kids are sick, we have to switch things around a little, but there are many people who can babysit. If we didn't live the way we do, we'd have to take the kids with us to the barn more often." Before we leave the Folkesson family, Karl-Gustav, or KG as he's known, wants to show us his room upstairs in the house. It's full of everything from excavators and forest machines to cows and horses. It's easy to believe that the next generation might well stay on at the farm for many years to come.

»We hardly even have to tighten anything these days, the machines are so reliable. The harvester has clocked up 6,000 hours and hasn't been to the workshop once!«

ANTON FOLKESSON



Anton Folkesson and machine operator Sven Jonsson in front of the company's two forest machines, a Komatsu 911 and a Komatsu 855.

Smart Forestry

A new era of digital solutions

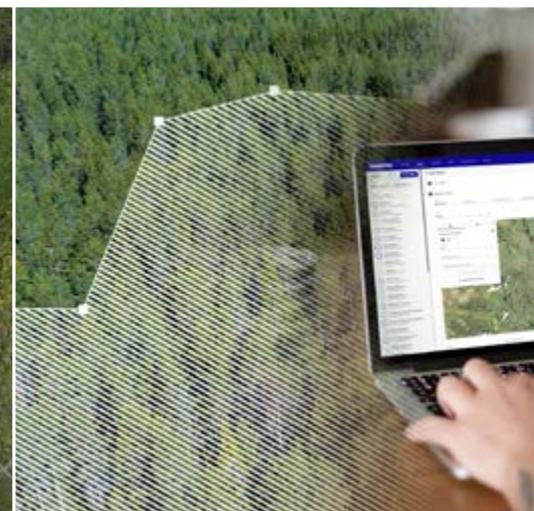
What would it mean to you to always know the smartest route to the timber with the least impact on the forest and well away from waterlogged ground? To be able to prepare tomorrow's work from home so that the right information is available at the start of the working day? Or to be able to allow a service technician to connect to your machine remotely to help you?

Smart Forestry is a platform with development in focus – we are already working on the smart solutions of tomorrow. Smart Forestry gives you access to a collection of digital services that help make the workplace safe, smart, productive and sustainable – regardless of whether you have one or one hundred forest machines. You can keep track of your machines, collaborate with colleagues and make informed decisions based on facts. Smart Forestry currently encompasses three different applications, making it easy to find the best solution for you and your business.

Fleet Monitoring provides you with full control over your machines, with the ability to plan remotely and all the necessary remote control functions – including support.

Vision includes all functions for practical map layers, collaboration between operators and the ability to monitor all production in real time.

Precision provides the ability to use the latest positioning technology to simplify the working day and reach new levels of precision for the work.



Smart Forestry Fleet Monitoring

- ✓ Plan for better results
- ✓ Work from anywhere with ease
- ✓ Access all machine data in one place
- ✓ Compare fuel consumption and production
- ✓ Create monthly reports with ease
- ✓ Get remote support and updates

Smart Forestry Vision

- ✓ Share information quickly and easily
- ✓ Collaborate seamlessly between operators
- ✓ Monitor production in real time
- ✓ Visualise boundaries and areas on the map
- ✓ Access vital information instantly
- ✓ Make informed decisions

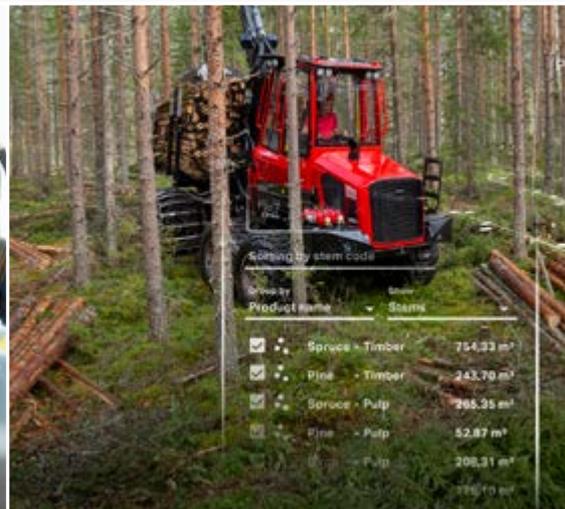
Smart Forestry Precision

- ✓ Facilitate work with precise positioning
- ✓ Navigate with realistic map conditions
- ✓ Work with precision in protected areas
- ✓ Follow pre-defined paths accurately
- ✓ Visualise tracks and progress
- ✓ Maximise work efficiency

Want to learn more?

Contact your local sales representative to learn more about how Smart Forestry can make your workday easier. You can also visit our website to stay updated with the latest news.

www.komatsuforest.com/smartforestry





SIMON WÜTZ,
SMART FORESTRY
SPECIALIST

Five tips for Smart Forestry Precision

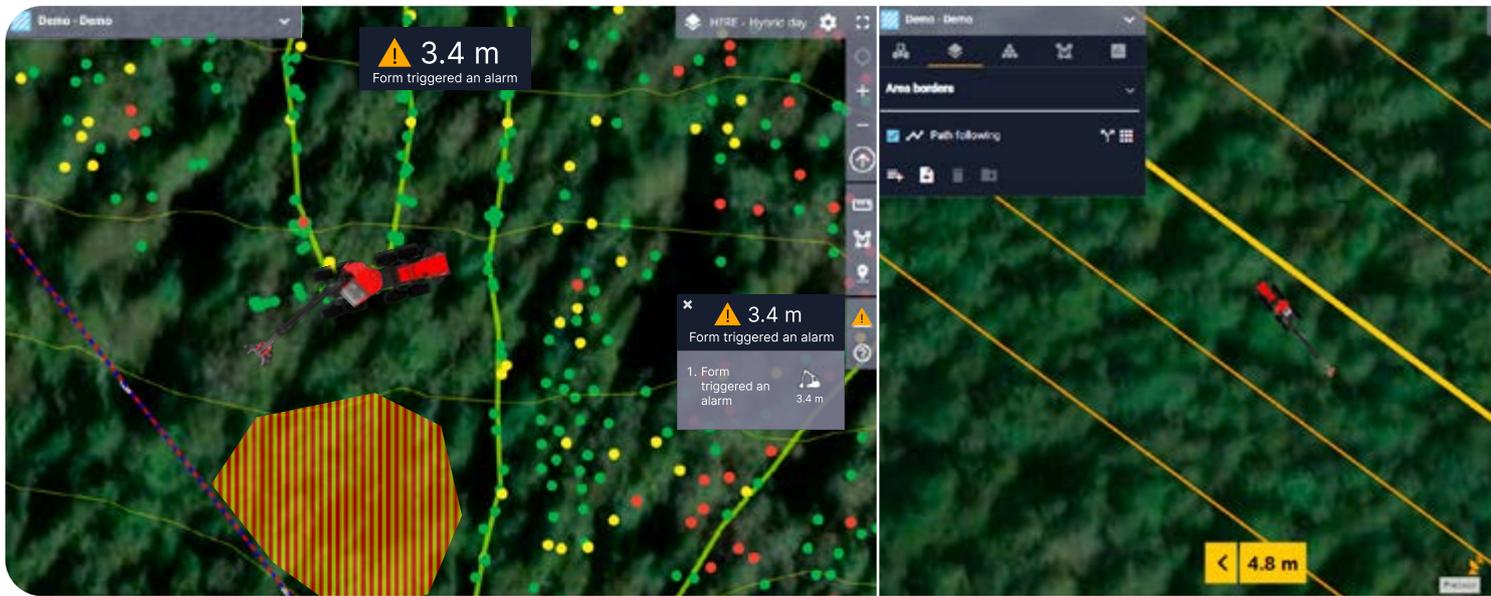
Smart Forestry Precision enables you to use the latest positioning technology to simplify your working day and reach new levels of precision production. One of our experts on this tool is Simon Wütz, who works with Smart Forestry in Germany. Here, he shares his top five tips for maximising the benefits of Precision.

“Initially, it’s very much about learning and establishing a suitable approach. The tool itself is easy to work with once you’ve been introduced to the basics. And once you’re up and running and have found your preferred work method, you’ll find that Precision offers invaluable help during planning as well as in the cab.”



1. Find the most suitable maps for you

Various digital map sources are available in different countries and regions. Research your options to find the most suitable maps for your assignments.

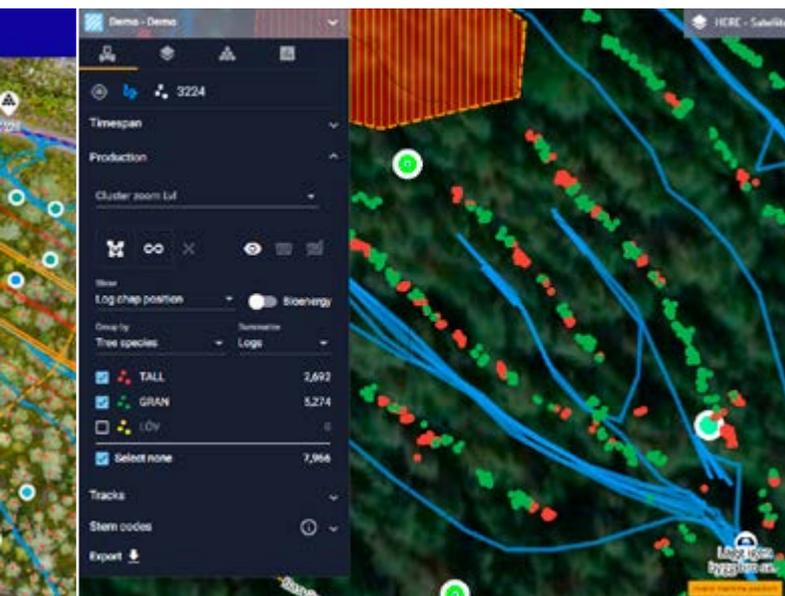


2. Plan boundaries and configure alarms

During your planning, you should create digital fences and boundaries. Be sure to adapt the alarms to both the machine and the crane tip. Accurate boundaries and alarms enable you to work confidently without worrying about harvesting from the wrong side of the boundary and hence the wrong trees.

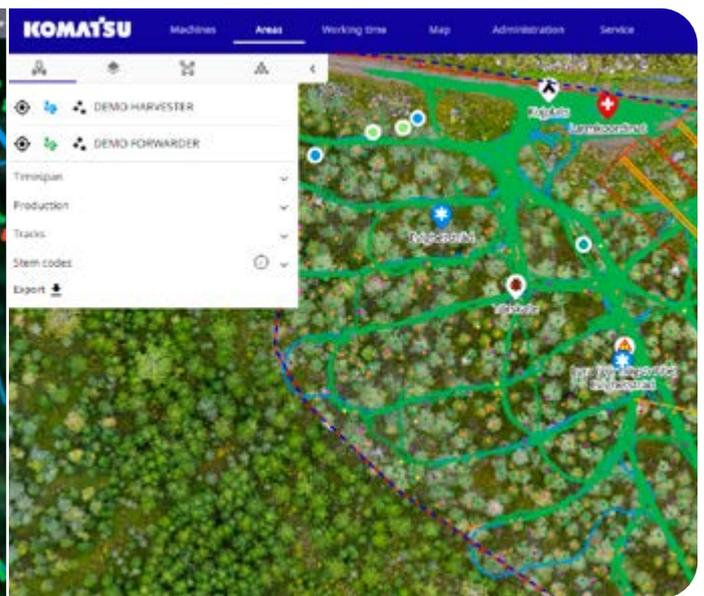
3. Follow your planned route

The path following function helps you keep your machine on the right track. During planning, you can also set the limits for deviations. If the machine starts to deviate from the planned route, the system will help you get back on track. This function is particularly useful when planning thinning routes.



4. Precise location of timber and assortments

Accurate visualisation enables you to see exactly where the timber is, even in the dark or when covered with snow. It also makes it easier to see the assortment found in each log pile or at the roadside.



5. Provide your client with accurate documentation

Precision enables you to offer your client clear documentation of the work area, including information about felled trees, tracks, stem codes and environmental considerations.



The family produces acacia posts for vineyards in southwest France

The family business B. LIGNEAU ET FILS SARL in southwest France was founded in 2002. Back then, Bernard Ligneau was an excavator operator given the opportunity to take over a local contractor's client base.

This is how he stumbled into the wood industry without a penny to his name, founded his business and began planting pine trees.

"That first winter, I planted 80,000 pine trees on my own," Bernard recalls. All the while, he sometimes reinvested his wages to buy his first acacia seedlings. Demand for wooden posts made of acacia was and remains remarkably strong in the region, primarily from winegrowers. One of the main reasons is that untreated acacia is incredibly durable and can last up to 40 years. Bernard worked extremely hard to develop his business, and by the second year he was able to recruit his first employee.

From there, the company simply took off, growing from small-scale manual post production to producing some 200,000 posts a year. Today, the company has its own sawmill for sawing and splitting the posts, of which 70 percent are made from acacia and the



Bernard Ligneau of the family business
B. LIGNEAU ET FILS SARL

rest from chestnut. The posts are used to fence livestock or to support grape vines, and most of them are sold locally within a radius of 40 km.

As the years have passed, Bernard has been joined in his business by his two sons, Mathieu and Romain. Even the equipment has been refined over the years. Due to difficulties in finding foresters, they invested in their first used harvester in 2015, and for a few years now they've had a Komatsu 901XC, which is mainly operated by Romain. The new harvester enabled the company to increase its productivity considerably, and, in addition to the crane's reach, Romain appreciates the machine's stability in demanding terrain and on slopes.

"Acacia must be harvested every 25 to 30 years, after which it dies," says Romain. "It's a sensitive job, and you have to be extremely careful."

It's no easy task producing straight posts from the occasionally crooked stems – and you need to extract as much material as possible from each stem. Romain cuts acacias with a diameter of 7–10 cm into 2.2 metre lengths to make posts for vines. Trees with a diameter of

10–15 cm are cut into 2.5 metre lengths to be used for other crops. Low-quality trees, and tree tops, are used for bioenergy and are chipped in the company's own woodchipper. This way, they maximise the use of their forest resources with no waste.

A few months back, the company invested in a used Komatsu 875 forwarder to replace a tractor–trailer that was no longer able to keep up with the higher production rate of the new harvester, a Komatsu 901XC equipped with a C124.

Bernard's business concept has always been to maintain full control over all stages of production with no intermediaries – from purchasing through processing to sales and delivery to the end customer. Although the company mainly works with acacia, they've kept a degree of flexibility and also take on thinning assignments for pine forests.

Bernard appreciates working with his family, being able to help each other and work in nature. Nature in which time is allowed to run its course, something he insists on to ensure the natural replanting of acacia and the long-term survival of this high-quality resource.

About B. LIGNEAU ET FILS SARL

- The company was founded in 2002 by M. Bernard Ligneau and now has nine employees.
- The fleet includes a Komatsu 901XC with a C124 and a Komatsu 875 with Comfort Ride.
- The family business mainly manufactures posts for vineyards.
- Romain Ligneau has a YouTube channel on which he publishes videos from his work in the harvester. Scan the QR code to visit his channel:



A 40-year-old innovation still going strong

Forty years have now passed since the first 901 saw the light of day. At its launch, it was one of the world's first single-grip harvesters designed from scratch with a custom harvester chassis and not a modified forwarder chassis, as was common at the time. The 901 also heralded the introduction of the stable Komatsu concept, which remains the same today. Former design head Ola Boström witnessed all this first-hand, and here he takes us on a journey 40 years into the past.

December 1980 was when Ola Boström joined the company, and back then all products were of the Valmet brand. The company was still quite small and Ola was the seventieth employee.

"These were exciting times before mechanisation really took off, but there was great potential," Ola recalls. "At the time, there were heads that could delimit and cut – including our Tviggen

head, which was normally mounted on a modified forwarder chassis. Felling was still performed manually with a chainsaw or a separate felling head, which was both expensive and impractical. This meant that there was a great deal of interest from forest companies for all felling, including thinning, to be mechanised.

"The forest companies had difficulties

recruiting manual foresters because it was such physically demanding work, especially in winter when they had to lurch around in deep snow," says Ola. "The companies also wanted to invest more in thinning, so there was great demand for new solutions."

It was in this era of development and innovation that Ola joined the company, bringing the number of people in the tiny design department to four.

"I was employed to work on a new grapple processor for delimiting and cutting to length, designated the GP940, our first crane-tip mounted head. Later, we developed a small harvester head designated the 935TH (Thinning Harvester). The advantage of that head was that you could tilt it up against the tree and use it for felling as well, mainly in thinning work."

The major innovative breakthrough came after a visit to a customer, the forest company Korsnäs Marma outside the Swedish city of Gävle. They'd mounted one of our GP940 processors on a Volvo BM 995 feller-buncher.

"Towards the end of the 1970s, it



Tviggen



Valmet 901

started to become popular to do things the American way, and so many companies bought these types of machines, even though they were large and expensive and could only fell the trees," Ola recalls.

During the visit, Ola and his colleague got to test drive the machine, which had several interesting solutions but was cumbersome and unstable when used off-road.

The visit gave rise to an idea among Valmet's designers – to build a harvester from scratch. Previously, such machines had simply been built on a forwarder chassis, but now they were going to build a small harvester designed especially for thinning. The difficulty was stability – which was even more difficult with a smaller and narrower machine.

"We built a machine with a pendulum shaft and a rear-mounted engine, which meant that the entire weight of the chassis provided stabilisation with only the rear axle moving," says Ola. "This solution kept things relatively stable, but it still wasn't enough."

This is when Jan-Eje Eriksson, design



»We've always had incredibly committed and skilled people who've worked hard and been truly passionate about development and innovation. What's more, we have an extremely good machine concept too.«

OLA BOSTRÖM, FORMER DESIGN HEAD AND MARKETING HEAD AT KOMATSU FOREST

head at the time, came up with the idea that they could achieve levelling in all directions with just two hydraulic cylinders, and connect the tilt cylinders to the stabilising cylinders on the pendulum shaft to counter its movement. This solution, which was also patented, dramatically improved the machine's handling and made it stable enough to drive off-road. The new machine was small, light and narrow and offered perfect tracking.

"We mounted a 935 head on the machine and there we had it, the Valmet 901, one of the first purpose-built single-grip harvesters designed from scratch as a harvester," Ola explains. "And since the machine was small and performed well in thinning, it proved a success. From that point on, development work continued, resulting in machines with six wheels, then even larger machines – and finally machines with eight wheels."

Ask Ola what he thinks is the main reason for the company's





development and success and there's no hesitation in his reply.

"We've always had incredibly committed and skilled people who've worked hard and been truly passionate about development and innovation. What's more, we have an extremely good machine concept too."

Being close to customers is another aspect Ola mentions as important to development.

"We've always spent a great deal of time in the forest, meeting contractors and customers and trying to develop the products they want," he says. "Many of these customers got involved in field testing the machines for us, with employees visiting them for feedback and to get everything working. And some of these customers are still testing Komatsu Forest machines today."

During the 40 years since then, Komatsu Forest has grown from a small local company to a large global company.

"So much has happened in terms of both society and technology," says Ola. "When I started, there was a pioneering spirit of sorts. We didn't have as many resources behind us, but within the industry we worked with what we had, improved the designs and got things to work. Today, there are not only more requirements and legislation to consider, not least when it comes to safety, but also more resources and more customisation to further improve the machines."

We've also seen huge developments in the production of the machines. In the 1980s, each machine was unique.

"We had a binder for each customer with all the details about their machines. When they needed technical support, they called and we had to find the right machine in the binder," Ola recalls. "Since then, production work has seen a great deal of development. And although most things are standardised today, the machines still undergo a great deal of customisation to each customer's needs."

"But it's funny to think that the harvesters we build today – albeit with much better quality, features and reliability – are based on the concept we developed back then in the early 1980s."



Valmet 935



Valmet 940GP

Towards electrification in the forest



Stina Drotz, GM Electrification at Komatsu Forest

The team working to electrify Komatsu's forest machines are inquisitive and technically minded, and both keen to break new ground and find new technical solutions. At the time of writing, a large number of these solutions have begun to take shape, and it's encouraging to note that the simulations conducted so far have proved promising.

Stina Drotz heads the electrification department and says that it's home to an incredible amount of technical expertise.

"We own the entire development process and are developing the electric

driveline for our machines in-house. We collaborate with selected suppliers in some areas, but the innovation capacity and technical expertise are found within our own operations."

The development work is model-based to be able to simulate the vehicle's handling.

"While many car manufacturers are skilled at this and have been working with simulations for a long time, for us it's a relatively new way of working," says Stina. "Being able to simulate the vehicle and its functionality at an early development stage rather than during field testing saves a great deal of time in the development process."

The simulations also help to identify any problems early on. Discovering them in a digital environment reduces the risk of encountering the same problems once

the actual machines are in use. And all the simulations conducted so far have proved promising.

While Komatsu Forest is in the driver's seat when it comes to technical development, collaborations and partnerships are important for the transition in the forest. Parallel to the machine development project, the company is working together with other industry stakeholders to create the necessary infrastructure to distribute electricity to workplaces in the forest.

"The development of electric vehicles in the forest is central to our efforts to become fully carbon neutral," Stina continues. "Now that we have a carbon-neutral production facility, the next key step is to use electrification to reduce the emissions from our machines."



» For us, it's important that our operations contribute to society, and our way of achieving this is to take the issue of sustainability extremely seriously and to work purposefully and unrelentingly – together. «

JENS BENGTSSON, CEO OF KOMATSU FOREST

Since June 2023, Komatsu Forest's production facility in Umeå has been fully carbon neutral.

The entire Komatsu Group has a vision of being fully carbon neutral by 2050, which applies to both the production and the

use of Komatsu machines.

"A combination of innovations and fruitful collaborations with partners and suppliers will help us to achieve this goal," says Jens Bengtsson, CEO of Komatsu Forest. "There's a great deal to be

done. The electrification of our machines is already under way, and we're also following the development of fossil-free steel with great interest."

Quality at every step – how a Komatsu forest machine is built

Did you know that some 300 people are involved in producing a new Komatsu forest machine? The process begins at goods receiving, continues in the warehouse, then at the various assembly stations, before finally reaching the test department. Moreover, thorough quality assurance is conducted after each step. Join us on a tour of the production process.



8,500

Goods receiving receives all materials for the forest machines, with some **200** pallets of goods arriving each day. We stock about **8,500** different parts, ranging from large five-tonne frames to small nuts. We order the materials for each machine so that they are received just in time.

The different warehouse departments



Everything that is picked is gathered on carts so that it ends up in the right place. A machine requires about **80 carts**, as well as about **80 pallets** of materials. Extremely large components are moved by forklift operators.

Safety first

Safety is a top priority, and we work hard to prevent occupational ill health and accidents. We focus our safety efforts on the environment, personnel and behaviour – a good work environment and know-how are fundamental to safe behaviour.



In the assembly hall, parts from the warehouse are assembled into a complete forest machine. Assembly is divided into different areas:

- LineOn**
Here, frame components and bogies are lifted onto a battery-powered automated guided vehicle (AGV), which transports the machine throughout the production process.
- Pre-assembly 1**
The engine, tank and cab are assembled here.
- Pre-assembly 2**
This is where forwarder rear frames, as well as harvester front frames and turntables, are assembled.
- Main line.** The machines are assembled on the main line, using the components from pre-assembly. The main line is comprised of ten stations, at which the machines are gradually assembled – with the steps performed at the last station completing the machine.

Ten stations along the main line

- 1 Forwarder gearboxes installed
- 2 Blocks and other pre-assembled components mounted
- 3 Engines mounted
- 4 Tanks mounted
- 5 Forwarder front frames and harvester rear frames completed
- 6 Front frames and rear frames mounted to create complete machines
- 7 Cranes mounted
- 8 Cabs mounted
- 9 Engine hoods mounted
- 10 Machines completed



Did you know that...

Forwarders are built with the front end forward while harvesters are built with the rear end forward – they pass through production backwards.



20_h

It takes about 20 hours (2½ days) to build a head. The production facility has a separate test facility where we quality assure and test the functionality of all our heads.

Tested then tested again

After the main line, we test all functions to ensure that they work as intended. Then it's time to add all the fluids and check for leaks. By the way, did you know that our harvesters and forwarders are filled with at least 300 litres of biodegradable hydraulic oil?

The next step is to hoist the machine onto our lift table where the wheels are mounted. Each wheel (tyre and rim) weighs about 500 kg, as compared to passenger car wheels at about 20 kg each.

The machine is checked yet again, with every moving part thoroughly inspected and tested in accordance with a special protocol. After this, the machine continues to Final Inspection for – you guessed it – a final inspection.

The machine is now ready for delivery!

Speed and accuracy when Komatsu Forest competes in the Tech Olympics

Can you compete in assembly techniques? Well, within the Komatsu Group you can. The aim of the competition is to create understanding, consensus and camaraderie around the Komatsu way of working.

Quality is key at Komatsu, and our philosophy is to ensure the quality of our products by developing our employees' skills. And that's the main focus of the competition: highlighting our employees' skills and working together to ensure a uniformly high level of quality around the globe.

Each year, a global competition – the All Komatsu Technology Olympics (AKTO) – is held in Japan, with participants from different Komatsu factories and Komatsu distributors around the world. It's also followed by an annual European competition held in the UK.

Tobias Ågren, an assembly worker at Komatsu Forest, competed in the latest competition in Japan. Tobias competed in the assembly contest, which involves assembling a competition rig as quickly as possible by following a drawing and particular method as closely as possible. The contest also includes a theoretical component.

For Komatsu Forest's representatives, it all begins with a local internal competition at the factory in Umeå. The winner of the internal competition, Tobias, got to compete in the Tech Olympics in Osaka, Japan, while the second prize winner, Anton Östberg, got to compete in the UK. Anton will also represent Komatsu Forest in Japan in autumn 2024.

Anton, who participated in the competition in Newcastle this past January, came third out of 64 competitors. Anton will also represent KFAB in the

assembly contest at the All Komatsu Technology Olympics (AKTO) in Japan later this autumn.

"The competition was a challenge I looked forward to and I'm very pleased with the outcome," says Anton Ostberg. "It was definitely an experience worth the time you put into your preparations. The most fun was probably the actual contest, the atmosphere and the pressure. I'm really looking forward to travelling to compete again. After the competition in the UK, I feel ready to take on a more difficult challenge."

Maria Olsson, who was Komatsu Forest's very first representative at AKTO 2014/2015, has coached both competitors. The preparations are thorough, with intensive training on the test rig in Komatsu Forest's factory as well as pre-competition training at the Komatsu site in Awazu, Japan. Maria has coached our competitors from start to finish.

"It's been great fun coaching our competitors and following their development and progress throughout their training," says Maria. "And I'm especially pleased and proud that it went so well for both Tobias and Anton in their contests."

Maria explains that the competition is beneficial for several reasons.

"By organising the competitions, Komatsu gives us the opportunity to learn from and exchange experiences with, our colleagues around the world. The primary focus is on safety, quality and method during both training and the competition, and naturally that focus remains in our day-to-day work even after the intense period of training and competing."





Maria Olsson and Tobias Ågren at the All Komatsu Technology Olympics 2023 in Osaka, Japan



Tobias Ågren at the All Komatsu Technology Olympics 2023 in Osaka, Japan



Anton Östberg training in preparation for the All Komatsu Technology Olympics 2024.

"I've been interested in forest machines for many years. I often venture out into the wild to photograph forest machines in action. Two years ago, I started sharing my photos on Instagram, and they've attracted a great deal of interest."

DANIEL MÜLLER, SAUERLAND, GERMANY





Twenty years of trust

Twenty years have passed since Matt and Sarah Leov left New Zealand to start Total Harvesting in Western Australia (WA). Recently, in conjunction with renewing their harvesting contracts in the Bunbury region, they chose wheeled harvesters for their operations for the first time.

Total Harvesting was founded by Matt and Sarah Leov, together with Sarah's father Chris Jensen. They started their business in Albany, WA, in October 2004 after relocating from New Zealand, where they worked as foresters.

Matt and Sarah were attracted to Australian contracts with better job security, making the move worthwhile despite relocating to another country far from family and friends. Their success story began with a tender submitted to Albany Plantation Export Company in 2004, winning them a contract to harvest 150,000 tonnes of eucalyptus a year.

This tender also saw the start of their collaboration with Komatsu Forest, as they bought their first two Komatsu 890.2 forwarders at the same time.

Over time, the collaboration has grown, resulting in a large fleet of forwarders and tracked harvesters – now joined by wheeled harvesters.

Over the years, the company has favoured tracked harvesters to handle the more demanding trees, but, with the new contract, they realised that wheeled harvesters would be better suited to the future smaller thinning assignments. The machines' size and ability to handle large trees – both in length and diameter – helped to tip the balance. The machines also offer lower fuel consumption and increased productivity, as well as safe, ergonomic workplaces for operators.

For the new contract, a fleet comprised of two Komatsu 931/C144 harvesters,



one Komatsu 951/S172 harvester and four Komatsu 895 forwarders was delivered. With these new additions, Total Harvesting has now acquired twenty machines from Komatsu Forest, all thanks to the sense of trust built during twenty years of effective service and support. Matt Leov, CEO of Total Harvesting, is pleased with the long-standing relationship.

"We're still dealing with the same people as when we first moved to Western Australia," he says. Matt truly appreciates Komatsu Forest's approach, which involves getting the machines up and running first, and then dealing with any issues.

"You can even get help with a little more than the warranty covers," he says.



To ensure first-rate service for the seven new machines, Komatsu Forest has appointed Pratico Mechanical Services as its service partner in the area. What's more, a partnership with Al Curnow Hydraulics, with extensive experience as a Komatsu Forest service partner, will ensure the service level required for the more remote areas. Total Harvesting has also decided to establish a local branch in Bunbury to support its operations in the area.

The company's expansion over the years has resulted in Total Harvesting now being responsible for harvesting and transporting significant volumes, including 220,000 tonnes of conifers and 100,000 tonnes of eucalyptus a year, with operations employing more than 50 people.

Western Australia is one of the world's largest states in terms of land area and encompasses the western third of Australia. The state capital is Perth, where some 80 percent of the state's population live. The state is famous for its white beaches and limestone caves.

It's home to almost **18 million hectares of native forests** and woodlands. The southwestern part of the state boasts native forests with giant eucalyptus trees (jarrah and karri), which are some of the largest in Australia.

The jarrah tree can reach a diameter of 1–1.5 metres and a height of 30–45 metres.

A dream come true for Marion, 73

It was a dream courageously worded on a computer. One winter night last year, Marion Claesson, from Veddige in Sweden, sent an email to the magazine Hemmets Journal. A few months later, she found herself high above the ground, surrounded by joysticks and buttons in the cab of a forest machine.

"I've long been fascinated by forest machines and thought it looked extremely exciting and interesting," Marion explains.



Marion Claesson, 73, realises her dream of operating a forest machine.

Marion spent her entire working life within administration at the social services department in the Swedish town of Varberg. While this might sound like a life far removed from forestry, the forest has always been a part of her life because she's owned forest together with her husband and his siblings. Consequently, forest machines have also been in the periphery.

"My husband Göran passed away in January last year. One sleepless night after his passing, I decided to write to the magazine Hemmets Journal, which holds a readers' contest where they make dreams come true. It was also a therapy of sorts to put all these thoughts down in writing."

About a month later, one of the journalists at the magazine contacted Marion to tell her that her dream project had been selected.

"Suddenly, I felt really nervous and wasn't sure whether I had the courage to go through with it."

Plans were set in motion together with the magazine, a forest contractor and the forest owners' cooperative Södra Skogsägarna.

"The day before, I felt nervous, but my daughter was there to support me. I have great respect for forestry and didn't want to damage anyone else's land. Before we met in Rydöbruk, I'd prepared bread rolls, homemade cake and coffee. After enjoying the coffee and cake with the others in the forest, I felt much more confident and relaxed."

How was it to get behind the controls?

"There were some nice young men there who helped me out, and it wasn't as hard as I'd imagined. The tricky part was handling the sensitive joysticks. Small movements were essential, otherwise I

risked smashing the head into the wind-screen. It really is a matter of fine motor skills. The most fun part was definitely the harvesting, seeing how all the limbs were trimmed off. Also, I expected a brake and a great big steering wheel in the cab, so it felt a little strange at first."

Did you get a taste for working as a machine operator?

"I've been jokingly asked to help out with other forest machine assignments. But sure, I'd love to do it again – it was such fun. If I was younger, it could've

been a future career. It's a really fun profession that many young girls and boys should consider."

What's the next dream you'd like to fulfil?

"The next thing on my bucket list is to see the northern lights in real life. A friend and I have already booked a trip to Lofoten in northern Norway this February. Hopefully, the temperature will be right and the night sky clear."



Komatsu and Williams Racing resurrect historic partnership

Monday 5 February was an exciting day as it became clear that Komatsu was once again a proud partner of Williams Racing. This time as the main partner of the British team as of the start of the 2024 season of the FIA Formula One World Championship (F1).



This partnership resurrects an earlier long-standing relationship forged in the 1980s and 1990s, during one of Williams Racing's most successful periods in Formula One to date. The most notable achievements were in 1996 and 1997, when Komatsu supported Williams Racing to Constructors' and Drivers' Championships with Damon Hill and Jacques Villeneuve, respectively.

During that period, Komatsu provided Williams Racing with expertise and technology, including gearbox components for the championship-winning FW18 and FW19 cars. Williams Racing and Komatsu are resurrecting their partnership at a pivotal time in the sport to create a new era of success together in 2024 and beyond.

Komatsu and Williams Racing share deep-rooted values embodying partnership, resilience, cutting-edge expertise

and authenticity through their innovation and ground-breaking technology, driving both performance and results.

Komatsu's logo will feature prominently on the FW46 driven by Alex Albon and Logan Sargeant, as well as on driver overalls and the Williams Racing team kit.

"Komatsu and Williams Racing have shared values around innovation and the development of our people, and through our partnership we look forward to creating value together, both on and off the track," says Hiroyuki Ogawa, President and CEO of Komatsu Ltd. "Our partnership with Williams Racing is aligned with Komatsu's mission to create value through manufacturing and technology innovations to empower a sustainable future where people, businesses and our planet can thrive together."

»Komatsu and Williams Racing have shared values around innovation and the development of our people, and through our partnership we look forward to creating value together, both on and off the track«

HIROYUKI OGAWA,
PRESIDENT AND CEO OF
KOMATSU LTD.



About Williams Racing

Williams Racing is one of the world's leading Formula One teams and has been winning Grand Prix races for more than three decades, amassing 114 victories, 313 podiums and 128 pole positions to date.

Its roots date back to the formation of Frank Williams Racing Cars in 1966 with the official team being formed in 1977. Williams Racing has also won nine Constructors' Championships, making them the second most successful team in the history of the sport.

In the 2023 season, under the leadership of new team principal James Vowles, Williams Racing rose to seventh place overall in the constructors' standings. The team's young and exciting drivers, Alex Albon and Logan Sargeant, will be aiming to show further improvements and deliver more success in 2024.

Traction Aid Winch

– when the terrain demands something extra

When harvesting and forwarding in steep terrain, a traction aid winch is a useful complement to ensure a productive working day with low impact on the forest. The Komatsu Traction Aid Winch is a high-quality system based on more than twenty years' experience of winch use in the alpine regions of Europe. The system has been complemented with anchor point monitoring to meet the requirements of the new ISO standard for traction aid winches. The Komatsu Traction Aid Winch is available as an option on the Komatsu 875 and the Komatsu 931XC.

Harvesting and forwarding timber in demanding conditions requires specially-adapted technology, such as a traction aid winch.

The Komatsu Traction Aid Winch is a high-quality winch solution that provides extra tractive force and grip and enables the machine to navigate terrain that would otherwise prove inaccessible.

Easy to use

The winch has a well-considered design that helps to simplify your working day, and, thanks to its compact dimensions, it impacts neither manoeuvrability nor visibility.

The harvester winch is easily removed during servicing or when driving on flat

terrain. It also has a hydraulic tilt that makes it easy to tilt the winch downwards when opening the hood or adjusting the rope angle.

The forwarder winch is designed to be well integrated with the rear frame. The Komatsu 875 has an integrated crane tilt option, which helps to compensate for any lean of the machine up to 22 degrees



and thereby better maintains the crane's slewing torque in steep terrain.

The winch is controlled with the aid of a remote control, and to optimise winch use it also offers several operating modes.

The capstan principle

The system is based on the well-proven capstan principle, which means that the winch has a separate drum for rope storage while the tractive force is provided by the capstan unit. This solution provides even traction regardless of how much rope is left on the drum. It also causes less wear on the rope, resulting in a longer service life. What's more, the winch has a rope feeder unit that ensures that the rope is always tensioned inside the winch.

Anchor point monitoring

One new feature is that the system has been complemented with anchor point monitoring, which meets the requirements of the new ISO standard for traction aid winches*. This system provides the operator with a warning if the anchor tree moves, so that the machine can be secured.

*EN ISO 19472-2:2022 (Machinery for forestry – Winches – Part 2: Traction aid winches) and EN 17067:2018 (Forestry machinery – Safety requirements on radio remote controls).



Popular XT option now available on the Komatsu 875

A powerful transmission with high tractive force is a prerequisite for forwarding timber in challenging conditions. While Komatsu forwarders already offer this, sometimes the terrain is so demanding that you need something extra. This is why we offer the XT option – a transmission that delivers both power and endurance.

Previously, it's been available on the 855 and the 895, but now it's also available on the Komatsu 875, meaning that all our 6-cylinder forwarder models are now covered.

The XT concept entails customising the machine to face even the toughest conditions, with the actual specifics differing a little between models.

On the Komatsu 855, the XT option sees the machine equipped with a sturdier bogie with hub reductions. Hub reductions are highly advantageous when working in challenging conditions, such as steep, snowy or wet terrain, as they increase the life of the bogie and thereby machine reliability.

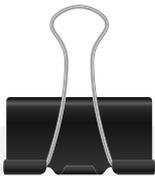
Another difference is that the XT option also increases the machine's tractive force, with the net increase being a full five percent. The XT option provides the already potent Komatsu 855 with

additional endurance, tractive force and power, making it extremely well suited to working in challenging conditions.

The Komatsu 875 with XT is designed for anyone in need of additional tractive force, which is increased from 214 kN to about 240 kN. This is primarily an option for anyone who prioritises tractive force over speed, such as in regions where the machine often needs to traverse steep terrain.

The Komatsu 895 with XT was launched in 2020 and has proved to be a highly popular choice, whether working in steep terrain or with ground preparation.

Continual improvement is one of our key concepts. We continually strive to refine our products and develop new services and functions – all to simplify your working day! Here are a few of the improvements and new offerings launched this past year.



Fossil-free alternative compatible with Komatsu forest machines

Since 26 June 2023, all vehicles used within our production, including our forest machines, are run on HVO100. This is a biodiesel produced from renewable raw materials sourced from waste and residues. The transition to HVO100 was the final step in achieving carbon-neutral production, of which we are extremely proud.

As a contractor, if you too would like to go fossil-free, you can, as our forest machines are now fully compatible with HVO100.



Easier to find the right spare part

Komatsu Forest's ESS spare parts catalogue is now available digitally - and easily accessed from our website. Here you'll find spare parts for all Komatsu forest machine models. What's more, you can filter the content to only display parts suited to your machine.

The ordering process has also been simplified by enabling you to add parts to a shopping cart. This can then be saved as a PDF or sent to any email address, allowing you to compile a list whenever and wherever you like and then forward it to your spare parts dealer at your convenience. A link to ESS can be found in the Services menu under Spare Parts & Accessories.



Limit damping for harvester crane lifting cylinders

The lifting cylinders on our harvester cranes have been equipped with limit damping for greater reliability and uptime. This improvement comprises an additional inductive sensor, the same type used to limit crane movement. This function was already integrated with Smart Crane and is now available on all harvester cranes. An electrical kit is available for retrofitting machines in the field.



Extendable bunk for flexibility



The *Extendable Bunk* option is ideal if you want a flexible mid-class machine but occasionally need to forward longer assortments. The extendable bunk offers you the flexibility of being able to easily extend the load area when needed and then quickly restore it to its previous size. The crane is used to easily adjust the position of the bunk from the cab. This option is available on the Komatsu 845 and the Komatsu 855.

600 followers voted for the new kids' baseball cap – now available from our online store!

Throughout the autumn of 2023, followers of Komatsu Forest's official Instagram account were able to vote for a baseball cap design for our online store. No fewer than 600 people voted for this red and blue model – which will be available from our online store come early summer 2024.



Several times a year, our online store is updated with new clothing, for both work and leisure. Examples of new products include a **check flannel shirt** with a soft lining, a soft and comfy **pile jacket** and a **hybrid jacket** with quilted material front and back and sleeves in a stretch material. We also have a practical and stylish **backpack** made from recycled material.

Visit our online store to find more new favourites!



Automatic reminders help to keep your machine in good working order

Some of the systems in your machine benefit from regular use, even if the climate doesn't require it. These include, for example, the diesel heater and the AC unit. The same applies to the colour marking function, which can be left unused for some time depending on your assignments.

To make it easier for the operator to remember to activate these systems, an integrated reminder function is now available. Every 30 days, it will remind the operator that it's time to use a particular function, thereby helping to keep the machine in good working order.



Optional strobe warning light

The optional strobe warning light increases machine visibility, which is useful when working near roads or hiking trails. This helps both the operator and anyone nearby to keep a safe distance. This option is available for harvesters and forwarders alike.





From ProSelect to Komatsu Genuine Parts

Our specially selected spare parts and accessories are changing name from ProSelect to Komatsu Genuine Parts. They will remain the same original spare parts, accessories and equipment specially designed or selected for your

Komatsu forest machine. You'll notice the name change as a gradual introduction of new labels when buying spare parts and accessories. The fluids, lubricants and oils are all selected by our experts, and all parts

are designed and sized to work optimally together. This is our way of ensuring that your Komatsu remains one hundred percent Komatsu year after year.



Continuing to invest in new premises

Contributing to a good work environment for our employees and practical premises to service machines is important to us. Which is why we're continuing to invest in new properties. We're proud of our new premises in Carlisle, UK, and next in line are our new premises in Stange, Norway, which will be inaugurated this summer.

Timbersports Champion

Komatsu Forest is proud to continue sponsoring Laurence O'Toole, who had a hugely successful 2023 in timbersports. Laurence comes from a family with a long history in the sport and learned how to handle an axe at a young age. Having honed his skills over the years, a unique combination of strength, precision and strategy has made him one of the best at the sport.

Timbersports has six different disciplines: three with an axe, two with a chainsaw and one with a hand saw. The disciplines simulate felling a tree or bucking a pre-felled tree and have their historical origins in how trees were felled and bucked in the past.



In 2023, Laurence racked up a number of victories and records and consolidated his position in the sport. The year ended on a high with Laurence and the Australian team Chopperoos proving victorious in the prestigious Stihl Timbersports World Trophy in Germany.



Laurence O'Toole

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**We were born out of necessity.
We didn't hire people to build machines.
We built machines so that we could hire people.**

**It had to work.
Because our town needed work.
And the name of that town was Komatsu.**

**Soon, we were in towns all over the world.
Everywhere work was needed.
In construction, in mining, in forestry.
Because necessity is the mother of invention.
And innovation is how society overcomes challenges.**

**Today, our machines may be bigger.
They may be stronger and more precise.
But we still build them to answer the needs of society.**

**Because there is still work to be done.
Big challenges requiring big machines.
Gentle giants.**

KOMATSU
Creating value together

