

JENDAMARK JUNCTION

MAKING OUR MARK IN GLOBAL AUTOMATION

ISSUE 7 | 2020/21



NEW APPS:

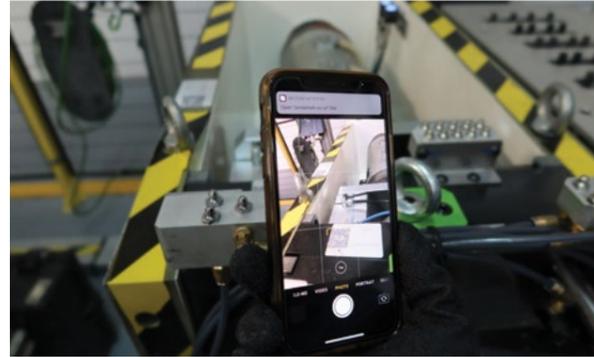
Documentation,
Tool Change,
Service, Health
and more

THE ODIN EDITION

Introducing our manufacturing technologies

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READY TO DIGITALISE

In this strange new world where digital has become the new normal, Jendamarck has been quick to pivot – simply because we have been preparing for this for years.

As you know, we manufacture manual and automated production lines that meet stringent quality and productivity KPIs. Achieving this on an automated line requires a deep understanding of machine design, manufacturing processes and controls systems. A manual line demands the same, plus an understanding of human behaviour, which has enabled Jendamarck to design and manufacture some of the most efficient manual lines operating worldwide – even in developed countries such as Germany and the USA.

It's important to note that automation is not the same as digitalisation (see sidebar). For Africa and Asia, there are many opportunities to leverage 4IR technology without threatening people's livelihoods. (Read more about the push to localise production on page 2.)

By digitalising processes, we can support and enhance human performance, helping people do their jobs more efficiently and accurately. Enter Odin Manufacturing – and the first of our new technologies, the Odin Maintenance apps (page 4).

With Covid-19 affecting the whole world, we would be remiss if we didn't use our tech to protect your workforce – hence our Odin Health app (page 10). The global pandemic has also affected our children's schooling, therefore we've launched Odin Education – an ed-tech ecosystem that powers the Omang e-learning tablet (page 16).

And we've also been hard at work, deepening our understanding of the electric vehicle market (page 12), and opening a bigger assembly hall in preparation for the largest project in our company's history (page 8).

The world may have been on lockdown, but we are not standing still.

Yanesh
Yanesh Naidoo | Editor

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AUTOMATION VS DIGITALISATION

According to an article on Gartner.com, traditional automation tends to “dumb down” people’s work, whereas digitalising processes should free people up to do what they do best.

“[W]ith digitalisation] ... the goal is to create and deliver new value to customers, not just to improve what is already being done.

“We now have the ability to use machines to support and augment people to help them realise their potential, not have them bogged down in paperwork...”

“Digital business presents tremendous opportunities for innovation and competitive advantage. Creating this value requires a complete rethinking about the work itself.”

Source: [Gartner.com/smarterwithgartner](https://www.gartner.com/smarterwithgartner)

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The drive to LOCALISE

Pandemic-related lockdowns and global supply chain interruptions have highlighted the need to localise – and digitalise – vehicle manufacturing processes.



According to a report by Deloitte about the impact of Covid-19 on the international automotive sector, 80% of global vehicle production involves some form of “Made in China” parts.

For developing countries like India and South Africa, deepening local supply chains could lessen this reliance, strengthen the economy and create jobs for a growing population. But the practicalities of sourcing skilled labour and ensuring that locally made products are competitive in terms of cost and quality have left suppliers struggling to implement the right solutions.

As major vehicle-producing countries in their respective regions, both India and South Africa are ripe for a smart manufacturing revolution to address these issues. Post-Covid-19, the global smart manufacturing market is projected to grow from US\$181.3 billion in 2020 to US\$220.4 billion by 2025.

SA MASTERPLAN

In South Africa, vehicle and component production accounts for almost a third of the country’s manufacturing output. While the Original Equipment Manufacturers and their Tier 1 component suppliers are well established, Tier 2 and 3 suppliers are underdeveloped and contribute just 20% to the automotive value chain.

The government’s new South African Automotive Masterplan, which aims to make the sector globally competitive by 2035, outlines ambitious targets such as doubling direct employment and vehicle production, and increasing average local content in vehicles from 39% to 60%.

“Covid-19 will certainly cause job and production losses, and delay implementation of the plan, but the intention is clear,” says Jendamarq SA’s sales and digital services director, Yanesh Naidoo.

“The plan creates serious opportunities for localisation of our supply chain, especially for black entrepreneurs, but we need to adopt new technologies and skills fast.

“The Odin Manufacturing solutions that we’ve developed are uniquely geared to the operating challenges within a developing economy. They are designed to assist deep localisation and don’t need high-end IT infrastructure. Most importantly, they don’t cause job losses,” explains Naidoo.

He points to solutions like the Odin Workstation operator guidance system and Odin Maintenance apps, which were designed to support human operators and technicians.

“Technology can equip even semi-skilled operators to perform complex tasks with minimum training, and ensure that production processes become faster, more accurate and efficient.”

SELF-RELIANT INDIA

Similarly, the Government of India’s stimulus package and the Atmanirbhar Bharat (Self-Reliant India) movement have provided the impetus for manufacturers to boost local production.

“The Indian automotive industry was at a crucial juncture when the pandemic hit,” says Jendamarq India director and CEO Himanshu Jadhav.

“India had committed itself to move from BS4 to BS6 emission norms from 1 April – a seemingly impossible task was on the brink of reality when the national lockdown was announced.

“With the supply chain cut off, and the border stand-off with China creating difficulties, it exposed the industry’s dependence on other countries, as many things from raw material to complex electronic hardware were imported.

“In our own business, we were planning to bring some complex equipment from China for one of our EV customers. But we took up the challenge to ‘Make In India’. We looked for the right material and processes, scouted for local partners with similar experience, and it was a success.”

Jadhav says an over-reliance on cheap imports, in the form of critical inputs and raw materials, has created a problem for many industries.

“Unless there is input substitution where India either identifies other sources or augments domestic production, there will be continued reliance on China. We know that there are limiting factors but digitalisation can fast-track the process.”

DIGITAL JOURNEY

Jadhav says the manufacturing sector is already on a journey to digital transformation but that Covid-19 has been the catalyst to accelerate the adoption of digital technology.

“Localisation and digitalisation are now even more important than ever, as the pandemic has exposed the vulnerability of companies, industries and countries that have not embraced these factors.

Smart technologies allow businesses to streamline processes and increase efficiency, while helping to revive the economy and restore normalcy.”

He believes localisation of the value chain from the bottom up, with intelligent automation, can help to meet uncertain demand and huge cost pressures in times such as these.

“Digital transformation is preparing the manufacturing industry for current and future interruptions or black swan events by plugging gaps across production, distribution and management.

“Moving towards digital is not a choice any more but a necessity for survival,” says Jadhav.

“New technologies are helping manufacturers to increase efficiency, enable high levels of product customisation, and improve speed to market. Covid-19 has changed the narrative around automation technology from ‘good to have’ to ‘must-have’.”

Organisations that show agility and adopt the right technologies will have a competitive advantage and a sustainable future, says Jadhav.

“It’s with such organisations that Jendamarq wishes to partner and share our Odin Manufacturing ecosystem and digital services.”

Introducing ODIN Manufacturing

To support customers in their quest to increase production efficiencies, Jendamark has launched Odin Manufacturing — a range of technologies designed to bolster productivity, improve product quality and reduce downtime.

Among the first solutions to come off the drawing board are the Odin Maintenance apps – Odin Documentation, Odin Service and Odin Tool Change.

These are the latest in a series of technologies that started with Odin Workstation, a paperless operator guidance system, and will ultimately form a holistic factory solution.

“We have created our apps to be cloud-based and easy to use. It’s about using 4IR technology in such a way that it supports production, reduces human error and assists

our customers in being proactive and getting the basics right,” says Jendamark’s continuous improvement manager, Jaco Heunis.

“All of our apps are designed by people who understand machines and the practicalities of running a factory.”

ODIN DOCUMENTATION

Odin Documentation is a cloud-based online portal that gives Jendamark customers 24/7 access to all their latest project documentation in one place.

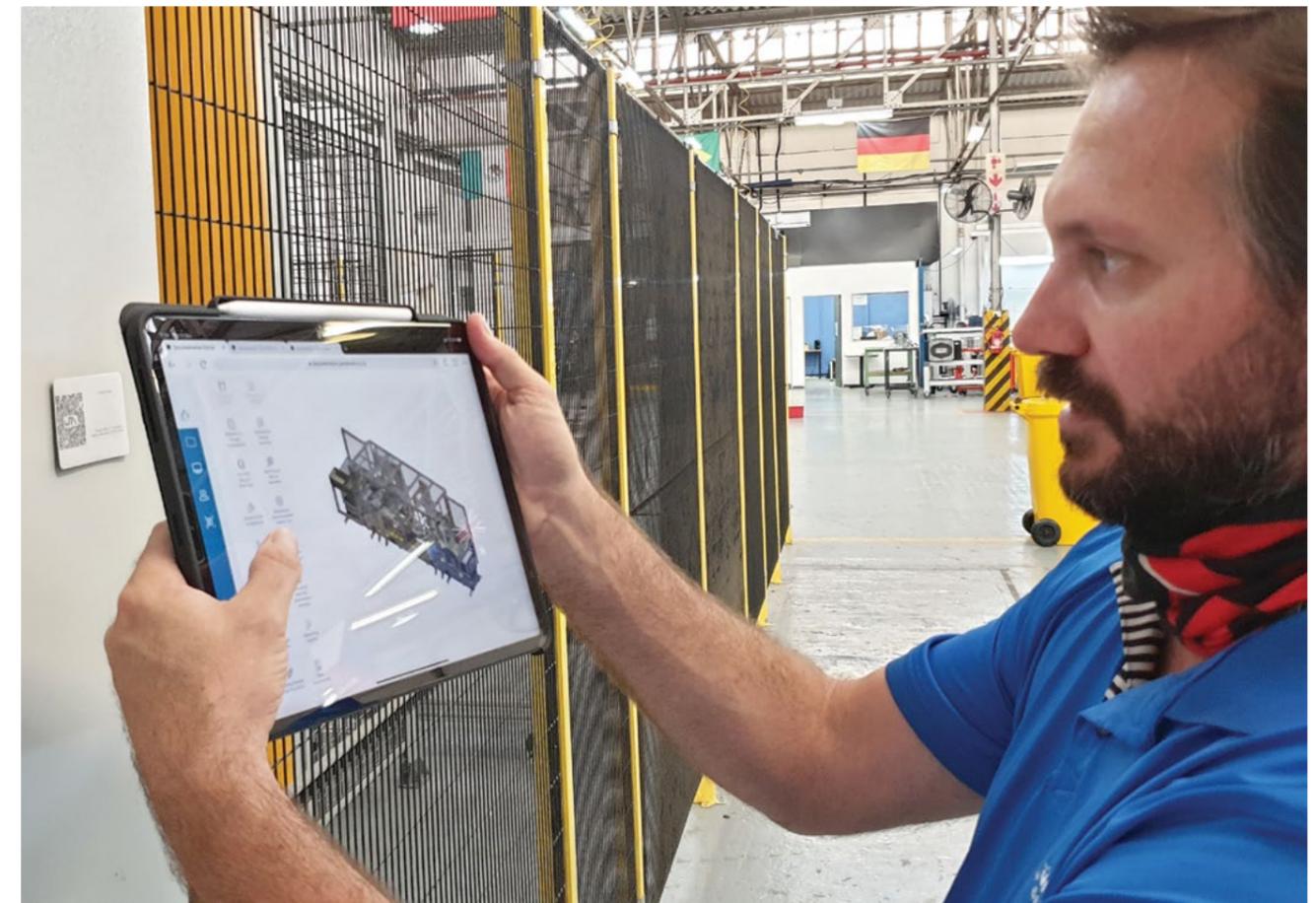
“No more hunting in dusty cupboards for missing instruction manuals or software documentation, or wondering if the latest line or project layouts have been added to your system,” says Heunis.

“Odin Documentation ensures ease of access to information for your maintenance teams so that they can quickly resolve machine breakdowns.”

The types of documentation that can be uploaded include machine buy-outs and maintenance manuals, mechanical and electrical bills of material, technical reports, controls designs and more.

Heunis says the information is available at assembly line or machine level, with secure access and project-based permissions assigned to authorised users.

“In the portal, you can access asset information by clicking on the machine in the virtual layout. Or if you are standing at the physical machine, just scan the QR code using your mobile phone.”



DATA-DRIVEN MAINTENANCE

Jendamark understands that smart manufacturing and maintenance is the way forward. Your production data holds the key to:

- more proactive maintenance;
- improved asset up-time;
- reduced production costs; and
- extended operational life of equipment.

Driven by Industry 4.0 technologies, Odin Maintenance uses an integrated platform that centralises a customer’s critical data for ease of analysis and faster, better decision-making. All of this can lead to improved production that, in turn, improves overall product quality in manufacturing.

ODIN SERVICE

Another way to reduce machine downtime is to make sure that routine preventative maintenance tasks are carried out when and how they should be.

Odin Service is an online scheduling app that allows customers to assign clear tasks to specific service technicians and issue paperless maintenance instructions for every asset.

“Often these routine tasks, which could improve the overall efficiency, reliability and lifespan of the asset, are forgotten or neglected,” says Heunis, adding that predictive maintenance yields real benefits – both financial and operational.

Odin Service allows users to validate normal operating parameters for tools and machines, and create manual and automatic alerts when they exceed these limits. In addition, technicians can keep track of consumables, such as oil, used.

A reporting dashboard shows management the overall asset health status, and allows users to log and manage asset information.



ODIN TOOL CHANGE

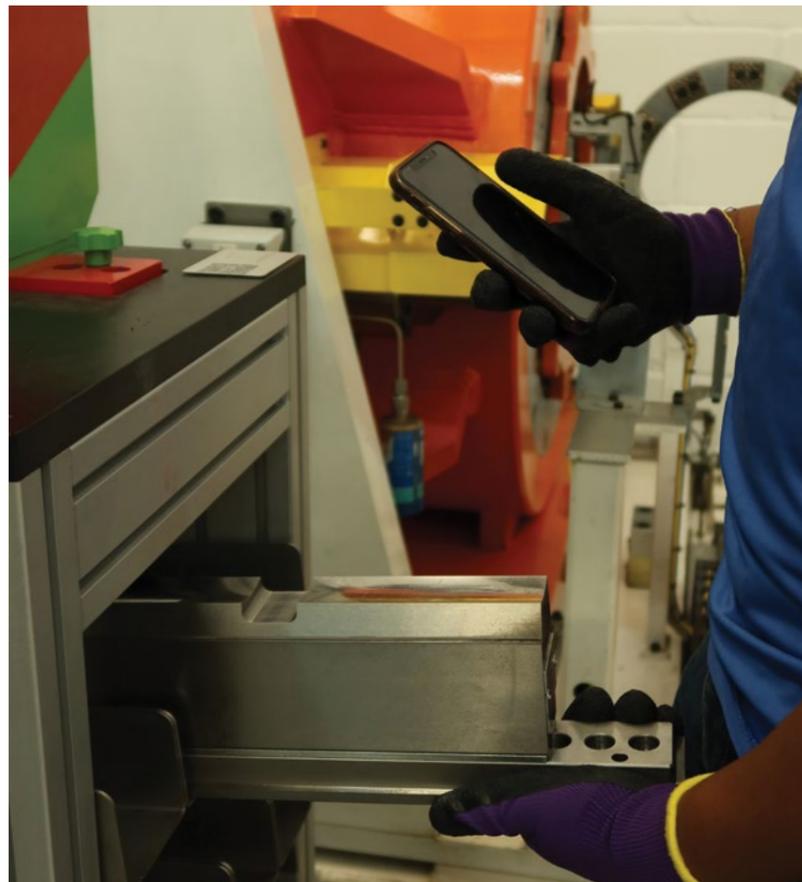
Currently also in development is Odin Tool Change – a paperless, interactive guidance system designed to ensure that tooling changeovers are done correctly between the assembly of different variants on the same production line.

“This online app helps customers prevent machine failure due to incorrect or partial tool changes and also helps to avoid production losses by managing faster, smoother transitions,” says Heunis.

The production manager can assign a specific technician to a specific tool change set and issue Standard Operating Procedures for that set when the line is ready for a new variant.

A QR code-based location tracking system lets technicians scan tools in and out of a certain location to minimise the chance of tooling being misplaced.

Heunis says the app can be used for any production process where tool change is required, such as filling different soft drinks on the same line, and not just component assembly.



DIGITALLY speaking

With the world on lockdown in 2020, Jendemark India was well positioned to make the immediate switch to the digital world of webinars, virtual conferences and video calls.



For Jendemark India CEO and director Himanshu Jadhav, who has built a public profile as an authoritative speaker on the topics of new manufacturing technologies and automation, it was a demonstration of the power of digital services in the workplace.

By the end of April, he says, the technical sales, design and digital services teams were all fully operational, working remotely from home and connecting via web-based conference calling and file-sharing apps.

“The first web events which we organised were private events with customers and also with local authorities, where we showcased our Odin Health app. This received an overwhelming response and it showed how technology can be used to respond to even a global pandemic crisis and restart factories.”

Two of Jendemark’s newest offerings, the Odin Maintenance and Odin Documentation apps, were officially launched at the third annual Inventicon Asset Integrity and Maintenance Summit in September.

This was a full-blown virtual conference with virtual booths, conference room, meeting rooms – and you could even put yourself in a virtual cafeteria!

In the spirit of the “new normal”, Jadhav was a virtual guest speaker at 15 webinars between May and September, hosted by big names in automation and data, including Rockwell Automation and Dun & Bradstreet. Topics ranged from the impact of Covid-19 on businesses to the associated opportunities, and the use of smart devices for smart manufacturing.

Jadhav says virtual conferencing holds a number of benefits for speakers, including being able to plan and set up presentations days in advance, and there are none of the last-minute IT problems that creep into live, in-person sessions.

While the technical side runs like clockwork, he says, the downside is that digital presentations often lack spontaneity and audience interaction, as some of the webinar content is pre-recorded and played during the session.

“In my honest opinion as a presenter and orator, I like seeing my audience and getting a vibe, which I feel is missing when we do webinars. But we all have to embrace the ‘new normal’ and make best use of the available digital services.”

Saving both time and costs associated with travel and hosting events, digital sessions are set to become a permanent way of doing business, Jadhav believes.

“Having said that, I strongly feel that live audiences and participation in exhibitions will return. We cannot take out the human need for socialising and the urge to touch and feel. This will drive us back to live sessions as soon as the pandemic is over.

“I think the ‘webinar culture’, as we call it, will continue for a few more years. The number of webinars will possibly go down in the long term but for sure they are here to stay.”

New BEGINNINGS



With a number of large-scale projects in the pipeline, Jendamar has made a key investment in a brand-new assembly hall at its Port Elizabeth operations.



Spawning over 1 440 square metres of gleaming floor space, with additional offices and meeting rooms, the new facility expands Jendamar's previous assembly capabilities, allowing the company to take on bigger, more complex production line projects.

The assembly hall, which was officially opened in October, represents another giant step forward for Jendamar in serving the global automotive market.

"We've raised the bar in terms of our offering and are set for some of the biggest lines we've ever procured," says manufacturing and assembly manager Marinus van Rooyen.

So, with our project forecast and the need for extra space, we are confident that now is the time to make this investment."

Van Rooyen says the maintenance and assembly teams took complete ownership of the two-month renovation process, handling most of the breaking out, cleaning, painting and building up of the new space.

"What we see here is largely the result of their hard work. It's a team effort and reflects the fact that Jendamar is constantly striving for excellence in all things and to exceed expectations of what we can do."

In the old building, the commissioning department has expanded into the former assembly hall, almost doubling the commissioning area from 1 255 to 2 440 square metres.

"Adjacent to this area is the machine shop, with our upgraded metrology section, where we manufacture all our high-tolerance tooling for our catalytic converter assembly lines," adds Van Rooyen.

With design and modification playing a critical role in the process of building these high-tech assembly facilities, the design office can now be found alongside the new assembly hall.

Controlling COVID-19

Turning the tide on the second wave of the coronavirus globally comes down to individuals and businesses keeping a close watch on their safety protocols every single day.



With Covid-19 posing a daily, and costly, threat to business continuity, Jendamar has launched Odin Health, an easy-to-use app that keeps track of mandatory health and safety protocols such as symptom screening surveys as well as temperature and oximeter readings for employees and visitors.

"Managing Covid-19 is a marathon, not a sprint, and it will be with us for some time still to come," says Jendamar's digital strategy director, Yanesh Naidoo.

"No-one can afford to relax, as a resurgence in active cases could derail the manufacturing sector, just as the wheels of business are turning again," says Naidoo.

The app started out as an attempt to solve Jendamar's internal Covid-19-related challenges when it came to the implementation of the new health and safety policies and procedures. However, Jendamar quickly realised its potential to assist other automotive players and businesses across various industries.



GLOBAL APPLICATION

"It all began with us trying to manage the re-opening of our offices in South Africa, India, Germany and the United States," explains Naidoo.

"With over 600 employees and all the different Covid-19 rules and regulations in each country, the admin required was pretty intensive.

"Things have also been changing, and changing fast, so we needed one communication channel through which to communicate any new developments, procedures and policies."

Thus, Odin Health was born, comprising a mobile app downloadable onto employees' phones, with a desktop management system used by the company's health and safety officers.

Currently used by a range of companies and their more than 3 300 individual employees, the app allows users to complete the required screening procedures, manage incidents, and send and receive critical communications.

HOW IT WORKS

Naidoo says the basic functionality starts with every employee completing a daily screening survey to check for any red-flag symptoms before he or she leaves home.

Then, when the employee arrives at work, his or her temperature (and oxygen level, if required) is checked and recorded on the system. The employee is only allowed access to the premises once both of these steps have been completed and the results are within the required parameters.

"While this app won't stop infections from occurring, it can certainly help to manage the situation and avoid unnecessary production delays," says Naidoo.

"Should there be an incident on your premises, the location feature assists with contact tracing. Users scan strategically placed QR codes as they enter and exit an office, factory, workshop or meeting room, letting you monitor movements and contacts."

The app also allows employees to report any health issues to their managers as they arise. Additional functionalities include quizzes to check that employees understand the new standard operating procedures, as well as mental health and wellness surveys.

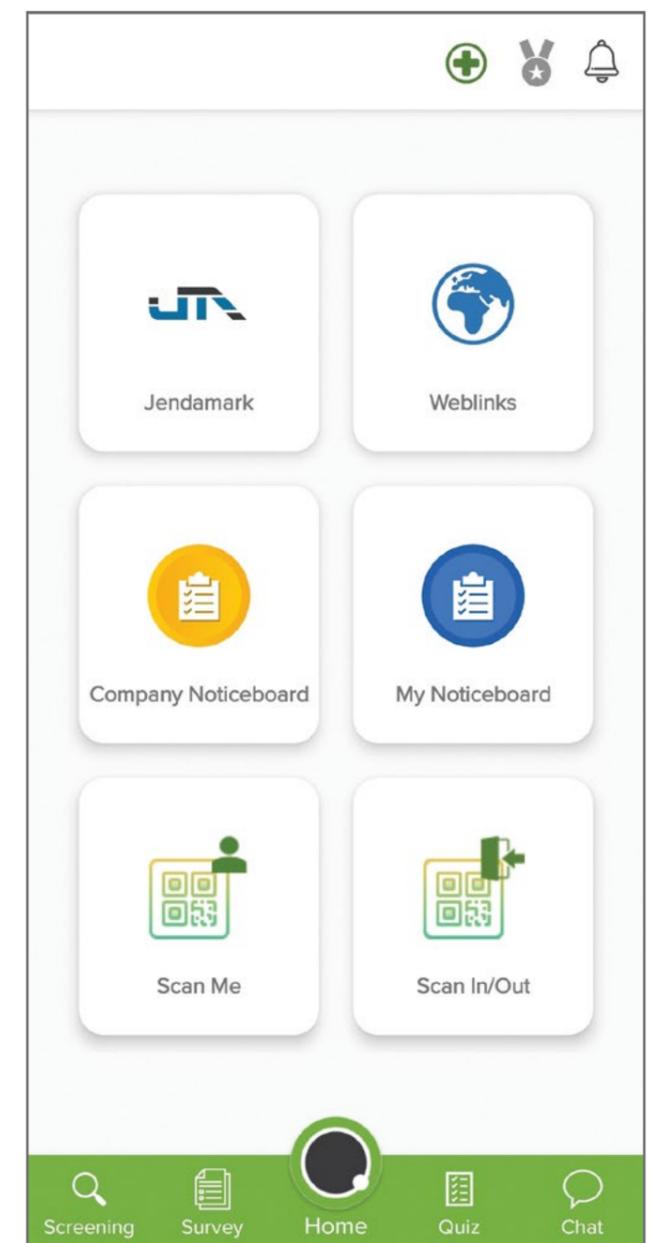
"We're all struggling in some form with the challenges of this pandemic, so the surveys are a great way for us to check on our team's psychological well-being and morale. It's a pretty powerful tool," explains Naidoo.

HARDWARE INTEGRATION

Jendamar's digital factory team have also been working on the integration of an infrared thermometer to further automate and speed up the screening process.

"This non-contact thermal scanner can be mounted on a company's main entry gate, reducing scanning time to three seconds per employee, thus avoiding long queues and unnecessary contact time," says team member Nishikant Jangam.

"We have successfully developed and coded an API that interfaces with the infrared scanner, which is made by Hygia. If a customer wants hardware that integrates perfectly with our Odin Health software platform, they will have the option to purchase both from Jendamar," says Jangam.



Enter the ELECTRIC ERA

The age of electric vehicles has arrived in India, with a surge in sales and the government's industry schemes motivating automotive manufacturers to start rolling out these new technologies.



The pressing environmental need for cleaner fuels and the massive legislative push by the government are the twin forces driving the local market (see EV sales graphic). But in many instances, the technology to support EV manufacturing has not yet landed in India.

Phase 2 of the government's Faster Adoption and Manufacturing of Electric Vehicles (FAME) industry scheme has encouraged many companies to start building EVs. While many initially bought input

machines, raw material and products from China, the current Covid-19 pandemic disruptions and global economic instability have forced manufacturers to look for local options.

Jendamark India has built a reputation for supplying complete assembly solutions, including the successful delivery of India's first automated battery pack line for local EV giant Mahindra Electric in Bangalore in 2018/19.

ELECTRIC VEHICLE SALES IN INDIA 2019



6,30,000
▲ 21%



1,26,000
▲ 130%



3,600
▲ 200%

GLOBAL EV TEAM

"Several global companies are now planning to set up new EV plants in India," says Jendamark India director Himanshu Jadhav. "We have been a pioneer in assisting these companies in their objectives and are in advanced discussions with a number of others."

Because the technology is so new in India, Jadhav says Jendamark has invested heavily in developing and expanding its knowledge and technical capabilities related to the burgeoning field of EV.

"We have established our global EV core team, whose job it is to understand thoroughly the regulatory environment and to investigate new technologies in order to offer our customers the best and latest high-tech solutions."

The team is divided into four functional areas, with three or four members devoted to each. (See sidebar for details.)

"We meet twice a month to discuss supplier and customer engagement, brainstorm ideas and share learnings on new technologies. We are also providing opportunities to our suppliers to present their range of products and adapt them to EV needs," explains Jadhav.

DEMO VEHICLE

Jendamark India has also taken on a team of seven young engineering interns from local colleges, who are supported in their challenging task – to design and construct Jendamark's own EV demo golf cart.

"Building our cart will help us to better understand the entire EV manufacturing process, showcase our technologies to customers, and support these promising students both technically and commercially," Jadhav says.

"Our aim is to help them develop a proper understanding of the EV world, prepare them to meet the challenges of this new market and lessen our country's dependence on imports. Our aim is always to think local, support local but act global."

EV CORE TEAM FOCUS

The EV core team is divided into four strategic focus areas:

Supplier focus

- Developing trusted supplier partnerships and maintaining a database of comparative industry offerings.
- Partnering with the right suppliers to develop unique solutions.

Product focus

- Investigating various products and components used across the full EV range, including two-wheeler, four-wheeler and commercial vehicles.

Regulations and policy focus

- Studying relevant EV policies, government regulations and related areas like EV infrastructure and afterlife of cells.

Marketing focus

- Core marketing, including student engagement and social media.
- Building up a demo EV from design to manufacturing, purchasing, painting etc.



Remotely POSSIBLE

Imagine being able to view your new machine or assembly facility in 3D from the comfort of your home, office or golf course. Jendamar's remote virtual design approval is now a reality with Odin AR.



Jendamar has been offering a virtual design approval process for all customer projects since 2019. A visit to the South African or Indian manufacturing facilities often involves stepping into the fully equipped virtual reality (VR) room for an immersive experience of the customer's design.

But since the Covid-19 pandemic and subsequent lockdowns made this temporarily impractical, the tech teams turned their minds to the idea of a remote, augmented reality (AR) solution.

"For VR, we had been using Autodesk Inventor with our own content creation," explains Jendamar India director Himanshu Jadhav. "In mid-April 2020, when Google launched an AR experience to blend digital content into the real world, this got us thinking – and Odin AR was born."

Jadhav says the objective is to give customers the ability to view their designs in 3D in 1:1 scale, take a closer look at the details and explore different sections from afar.

"The best part of Odin AR is that you don't need any special hardware or software. All you need is a smart phone with the latest Android or IOS software."

"Our design and tech team create the designs and convert them into AR-ready content. They then generate a link using our cloud service and send it to the customer. All the customer has to do is click on the link and pan across a vacant floor space – and the designs just pop up in front of him or her."

Jadhav says Odin AR has been available since August, with Dinex, ATS EOL and Tenneco among the first customers to try the technology.

"This will absolutely become part of our standard offering moving forward, and we are working hard to perfect it and create an even more advanced and feature-loaded experience."

"Just imagine a customer being able to use it at the airport, in a hotel room or working from home. Without any special hardware or software, he can view designs, give us valuable feedback and get the 3D immersive experience feel."



DINEX AND THE NEW REALITY

Finland-based Dinex recently commissioned Jendamar India to build canning lines and an after-treatment system assembly line. As their main team is based outside India, AR has become a big advantage. Dinex group engineering manager Kalle Puurula explains why.

Q: With Covid-19 disrupting normal travel and business, how did you experience the virtual 3D design approval process?

A: In these serious times, I have had the great opportunity to get to know and learn the future way for 3D design approval with Odin AR. In the beginning, it was slightly strange that I was looking at 3D models on my mobile instead of playing the same on a laptop with real 3D design software. Sometimes I'm expecting to find the same features as in a 3D design program before I realise that it is not the idea behind this. I have been showing this application to many people and they have been surprised and shown interest in it.



Q: What are the benefits of being able to do virtual 3D design approval?

A: For me, the biggest advantage has been to see the actual size of designed parts. For example, the workstation ergonomic detail has been nice to look through with Odin AR, using a real person in the camera view. The fact that this works on mobile means it's always available once you get the idea.

Q: Do you see this becoming a normal way of conducting the approvals process in the future?

A: This kind of virtual 3D process will absolutely become more common in future and take on a bigger role in the design approval process. It only takes a few moments to become familiar with it. Good job, Jendamar.

Creating the digital CLASSROOM

Jendamark is breaking down barriers to online learning with an ed-tech device, powered by Odin Education, that provides a one-stop, affordable digital education solution for South African schools.



The android educational tablet, known as Omang (meaning 'identity' in Sesotho), is a fully connected, interactive device that gives learners affordable access to world-class content in the form of educational platforms and apps, videos, and relevant reading material based on their subject choices and interests.

Each learner's device is personalised for them, and preloaded with data and supplementary educational content specific to their school's curriculum requirements – including approved educational websites, and any e-learning platforms or apps they may already be using. As an education-only device, there are no social media distractions or games.

Teachers can upload their own content, including video lessons, notes and old exam papers, and also set multiple-choice tests and answer questions via chat forums. The software has been designed so that teachers and learners can use the device with very little training or technical proficiency.

For those who are still unsure, Jendamark's service and support partner, Kaizen Unlimited, handles all uploads and user support remotely.

"Odin Education is much more than just a tablet," says the head of Odin Education, Ajit Gopalakrishnan.

"We offer one of the only complete digital education solutions in the country. We don't just do hardware or software or security or data connectivity or technical support or web platform integration. We do all of it."

EDUCATION IN ACTION

Over a thousand devices have been piloted in rural Free State schools, and 75 supplied to Grade 12 learners from various Nelson Mandela Bay schools who are enrolled in the Unity in Africa Foundation's Incubating Great Engineering Minds (iGEMS) after-school programme.

"Omang is making a huge difference to learners and teachers, and we're already seeing an increase in results, especially in our maths grade average," says Sehloho Moletsane, principal of Mohaladitwe Secondary School in QwaQwa in the Free State.

Grade 12 learner and iGEMS participant Xhanti Qandana says he and his peers were excited to receive their devices. "This is huge for us, as we come from very underprivileged homes. This device will enable us to function better, as everything we need is at our disposal. It's like having a second teacher."

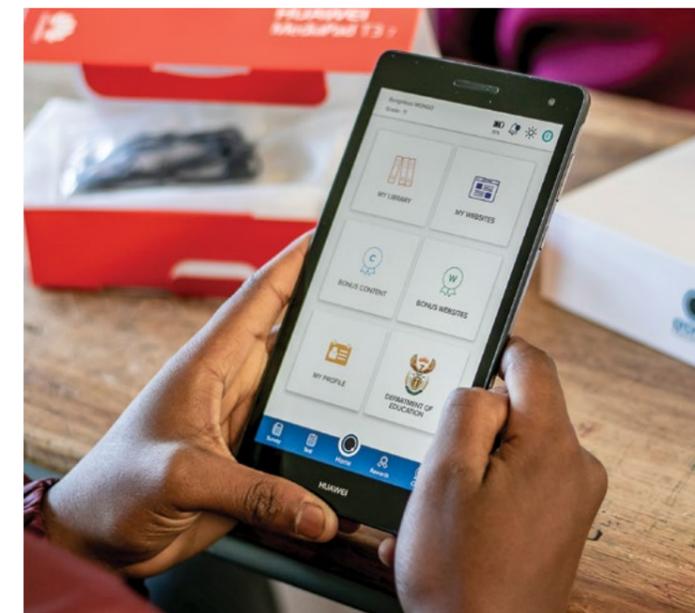
CONNECTING KIDS

To mark Mandela Month, Jendamark donated 114 devices to Grade 11 pupils at Nqweba Secondary School in Graaff-Reinet, where the youth face socio-economic problems such as unemployment and substance abuse.

"This partnership will really assist in empowering our youngsters," says executive mayor Deon de Vos. "This device and its Odin Education ecosystem makes it possible for them to reach out and see the world."

Gopalakrishnan sums it up: "In this digital world, there is no shortage of quality educational content, but access to that content and to data and devices like phones or tablets is a real obstacle for many.

"What sets Omang apart is that it is a learning device not just a smartphone with data. It is designed to support under-resourced schools and give learners access to a digitally enhanced learning experience that puts them on the same educational footing as more privileged peers."



GET INVOLVED

Is your business looking for:

- a trusted channel for your corporate social investment spend;
- a way to make a real, sustainable impact; and
- a means to improve your B-BBEE status?

Partnering with Odin Education helps us connect every child to a brighter future and transform the standard of education in South Africa.

USE YOUR CSI SPEND WISELY

Hundreds of schools across South Africa are in desperate need of the Omang ed-tech solution but neither the school nor the parents can afford it.

Omang costs:

- Just R3 199 once-off per learner
 - Includes device + 2GB of data per month
- Simply tell us how much you want to spend, and we will match you to a pre-approved disadvantaged school in your area.

PREMIUM IMPACT. MAXIMUM RETURN.

Buy your devices through one of our partners and claim the right B-BBEE points for your scorecard:

- Enterprise Development (via our service and support partner, Kaizen Unlimited)
- Socio-economic Development (via our NPO partner, Unity in Africa Foundation)

*Earn 5 points per pillar. Qualifying contribution is 1% of net profit after tax or indicative profit margin.

More information:
sales@odineducation.co.za | www.odineducation.co.za

Supporting our COMMUNITIES

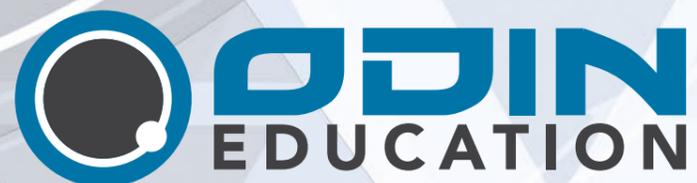
Despite the limitations imposed by the national lockdowns in response to the Covid-19 pandemic, our global Jendamar family did their bit in many ways.

1, 6, 8, 9. Jendamar India's design team quickly set up their home offices to work productively during lockdown. 2 & 3. Jendamar SA donated 3D-printed protective face shields to medical personnel at the Gamtoos Clinic. 4. Joshua van der Merwe, who was born with half a heart, was all smiles at the golf day organised by Jendamar SA to raise funds for his life-saving cardiac procedure. 5, 7 & 13. Jendamar India staff masked up and embraced the new normal when they returned to site after lockdown. 10. Jendamar SA donated 40 face shields to the Bluewater Bay Surf Lifesaving Club's surf rescue and coastal water rescue squads. 11. SA's manufacturing director, Graeme van Zyl, assembled 3D-printed face shields for frontline workers. 12. Jendamar India dropped off care packages for the residents of Matoshri Old Age Home. 14 & 19. With movement restricted during lockdown, many of India's workers opted to stay on site – sleeping in offices converted into dormitories and enjoying meals in the canteen. 15 & 16. Some SA employees and other volunteers with 3D printers at home helped to print face shields for donation to frontline personnel. 17. Jendamar India staff observe safe social distancing while waiting to be scanned on arrival at work. 18. Jendamar India distributed pulse oximeters and temperature guns to the Gram Panchayat, Velu, to help manage Covid-19 cases by monitoring community members' oxygen levels and temperatures.



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