

Corporate

 Current price **50.5p**

 Sector **Electronic & Electrical Equipment**

 Code **TRT.L**

 AIM **AIM**

Share Performance



Source: Thomson Reuters, Allenby Capital

Share Data

 Market Cap (£m) **8.2**

 Shares in issue (m) **16.3**

 52 weeks **High** **Low**
82.5p **42.5p**

 Financial year end **June**

Source: Company Data, Allenby Capital

Key Shareholders

CriSeren 9.40%

Seneca 7.67%

P Lobbenberg 5.94%

Legal & General 3.31%

Harwood Capital 3.13%

Gerald Oury 3.03%

Directors 1.35%

Source: Company Data, Allenby Capital

Ian Jermin

0203 328 5664

i.jermin@allenbycapital.com

www.allenbycapital.com

Transense Technologies plc (TRT.L)

Royalty stream supports longer term growth

Transense Technologies plc is a developer, manufacturer and licensor of sensor technology and equipment. It has gained significant traction through the recent licensing of its iTrack technology and the transfer of the operating business and cost base to ATMS (a Bridgestone subsidiary) in an agreement that will generate an increasing royalty revenue stream for the Company over the next ten years. As a result, Transense should become virtually self-financing. Management's focus will now move towards monetising the substantial IP within its SAW division which has already concluded a significant licensing deal with GE that will provide an annuity royalty stream for many years to come. We believe our forecasts to be conservative but even on this basis the shares trade at just 4.4x EV/EBITDA for FY23 and 6.6x earnings offering an attractive long-term investment opportunity.

- SAW technology monetisation a priority** – The SAW (surface acoustic wave) technology has tremendous potential across many sectors and although management's recent focus has been on licensing iTrack, it has already achieved a significant milestone through the licensing of the IP by GE for its helicopter engine upgrade for the US Army. While this will generate growing annuity royalties commencing in 2023/4, management's focus is now on generating revenues and profits from this division in the near term.
- Formation of Commercial Advisory Panel for SAW (SAWCAP)** – The well-respected members of SAWCAP (see page 27 for their bios) will provide advice to the Transense Board and support the development of SAW's commercial strategy while also helping to forge strategic alliances through their deep industrial connections.
- Bridgestone deal begins a new chapter for Transense** – We believe that the exclusive 10-year worldwide licence agreement announced in June 2020 with Bridgestone/ATMS has created an inflexion point in the prospects of Transense. This growing royalty income stream that delivers pure profit and cash with zero costs has resulted in a Company which is now cash generative and close to self-financing and can look forward to becoming sustainably profitable on an EBITDA basis from the current financial year onwards.
- Forecasts are conservative and have the potential to be upgraded** – With iTrack being the primary profit generator in the near term, we look for strong progress in SAW and Translogik now that management has moved its focus away from iTrack. In this regard we are encouraged that revenues from both divisions are running substantially ahead in the current year to date. That said, we believe our forecasts are conservative with potential for upgrades as the year progresses. On a medium term view we believe the shares are undervalued and consequently we consider that now is an opportune time to invest.

Year End: June

(£'000)	2019A	2020A	2021E	2022E	2023E
REVENUE	596	603	1,527	2,268	3,236
ADJ. EBITDA	(701)	(681)	33	582	1,392
ADJ. (L)/PBT	(1,124)	(1,265)	(195)	357	1,171
ADJ. EPS (p)	(6.38)	(6.68)	(0.46)	2.56	7.55
NET CASH	2,647	1,193	1,003	1,110	2,100
EV/EBITDA (x)	-	-	-	12.2	4.4
PER (x)	-	-	-	19.6	6.6

Source: Transense; Allenby. Allenby Capital acts as Nomad and Broker to Transense Technologies plc (TRT.L).

Please refer to the last page of this communication for all required disclosures and risk warnings.

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Investment Case

- **Royalty income stream that is 100% profit and cash with no overhead** - Exceptional licence agreement for iTrack concluded by management which secures a growing stream of royalty income over a ten-year period from Bridgestone subsidiary ATMS **for all off the road (OTR) vehicles** fitted with iTrack which for Transense represents pure profit and cash with zero overhead.
- **Licence deal preferable to trying to go it alone** - This will, in our view, create substantial shareholder value and is preferable to attempting to compete, with limited resources, in a global tyre pressure monitoring system (TPMS) market that is already supplied by proprietary systems offered by the principal OTR tyre manufacturers and several independent TPMS providers.
- **iTrack forecasts based purely on potential in ultra-size mining trucks** – It is estimated that there are around 61,500 mining trucks currently active globally of which around 11,500 are classified as ultra-size mine haul trucks (rim size 57 inches or greater). Our forecasts are based on iTrack’s anticipated penetration into this latter category only and we note that royalty income to date is increasing in line with management’s expectations.
- **Significant growth potential for iTrack** – We anticipate royalty income growth being generated through the substitution of Bridgestone’s older B-TAG system which is currently installed on around 1,500 ultra-size trucks; from penetration of the c.2,000 trucks currently using other TPMS solutions and from the c.7,500 trucks that currently have no TPMS fitted.
- **Addressable market opportunity of c.£138m** – Assuming an initial annual royalty income of £600,000 and an estimated installed base of 500 trucks we see the total addressable market opportunity for ultra-size trucks in terms of royalty income for Transense as being of the order of £138m.
- **Significant opportunities to monetise SAW and Translogik** - With a secure and growing revenue base and stable cash generation, the Company is now close to being self-supporting allowing management the opportunity to monetise the potential within the other two divisions, SAW and Translogik. We are encouraged that revenues to date from these businesses are running substantially ahead of the modest level achieved at the same stage last year.
- **Royalty stream to deliver value and part-fund organic growth** - Some iTrack royalty income, together with R&D tax credits will be prudently applied towards funding SAW projects but the formation of the SAWCAP will ensure that any expenditure is narrowly focused on only potentially profitable projects
- **SAW already demonstrating meaningful success** – SAW has already licensed its IP to GE (licence fee \$0.75m) for the use of its SAW technology in engines for the US Army’s ITEP programme. Initially covering 6,000 aircraft, this will begin to produce a significant and growing royalty stream from 2023/4 onwards.
- **Good opportunities for Translogik** – While not of the same potential scale as iTrack and SAW, Translogik has opportunities to develop and expand its portfolio of tyre depth and pressure probes into a global market where overseas sales already represent over 90 % of probe revenues.
- **A compelling investment case** – in summary, we believe that this research presents a picture of a Company with an already secure and growing revenue stream with the potential to develop its technology into other global markets that will create substantial shareholder value over the coming years.

Founded in 1991 to develop and commercialise surface acoustic wave sensors

Background

Transense was founded in 1991 and was listed on AIM in December 1999. Its business is to develop and commercialise its patent-protected Surface Acoustic Wave (SAW) technologies.

The Company has developed two distinct sensors, one measures torque and temperature the other pressure and temperature, and the requisite electronics to interrogate and read them. In its recent history, Transense has commercialised four applications, three of which use SAW technology and all being at varying stages of monetisation.

IntelliSAW, which provides advanced monitoring solutions for critical electric power transmission and distribution assets was sold to Emerson Corp in 2016 for US\$5m.

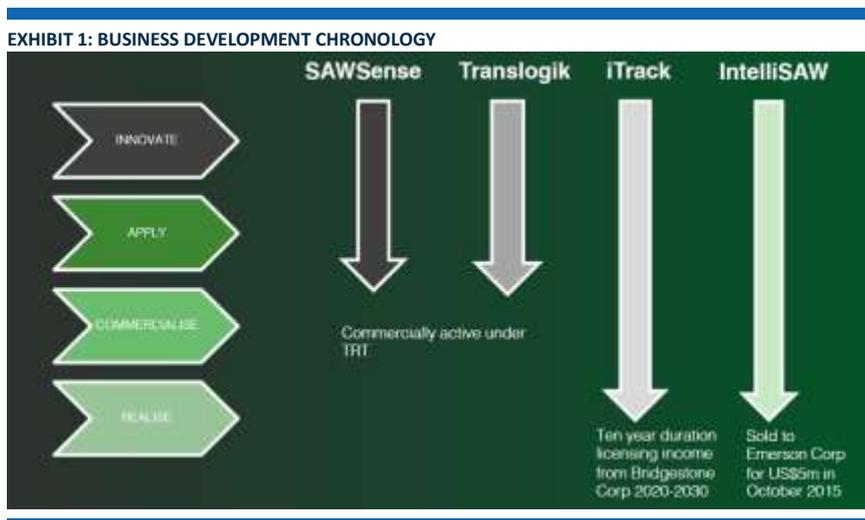
iTrack, a tyre pressure monitoring system (TPMS) was exclusively licenced to ATMS (part of Bridgestone) in 2020 for a 10-year royalty stream with a current run rate of c.£0.6m pa.

Translogik, from which iTrack was split out, is a supplier of probes that are used as data collection tools within Tyre Management Systems. They monitor tread depth, pressure and temperature data for truck and bus tyre inspections and RFID (Radio Frequency Identification) tags, patches and UHF readers for tyres.

SAW, formally known as SAWSense, produces a range of sensor systems for measuring torque, temperature and pressure in fields varying from Formula 1 racing to aerospace applications.

Monetisation schematic

The monetisation stages of these four silos can be represented by the following graphic which illustrates the strategic development chronologies of each business.



Source: Transense Technologies plc

Three revenue streams, only two of which are managed by Company

Following the successful sale of IntelliSAW to Emerson in 2015, Transense now has three current revenue streams but only two of which (Translogik and SAW) are actively managed by the Company and carry any overhead.

In the following pages we consider the prospects for each of the three revenue streams beginning with iTrack.

iTrack

A spinout from Translogik

Background

In 2019 iTrack, which was previously a brand within the Translogik division, became a division in its own right reflecting the growth in revenues and escalating interest from numerous existing and potential customers globally.

Exclusive global licence signed with ATMS for OTR vehicles with a royalty stream accruing over a 10-year period

In August 2019, a Joint Collaboration Agreement (JCA) was signed between iTrack and Bridgestone. Following a successful period of working together, Bridgestone, through its wholly owned subsidiary ATMS Technology Limited (ATMS), signed an exclusive worldwide licence with Transense for the iTrack technology with a royalty stream of revenue accruing to Transense over a ten-year period.

Broad estimate of global market opportunity for ATMS and Transense

In the following pages we discuss the merits of the technology and the competitive landscape of Tyre Pressure Monitoring Systems (TPMS). While the terms of the licence agreement are clearly commercially sensitive and have not been divulged, we make some high-level assumptions through which we can estimate in broad terms the total worldwide market opportunity open to ATMS and by association the monetary benefits in terms of royalty income flowing through to Transense.

TPMS applications for OTR vehicles and in particular mining vehicles

The technology

iTrack is a TPMS technology that had been developed over many years through research conducted by the Translogik division of Transense and first came to prominence in 2009 when Translogik entered into a supply agreement with Goodyear Dunlop for its “real-time” tyre tread depth and pressure field inspection kits. Many years later and named iTrack, the technology was given its own division and now provides state of the art TPMS data to mine operators.

Benefits of the system

The iTrack TPMS system has been designed to withstand the harsh and demanding operating environments of mining, construction and earth moving. Correctly inflated tyres last longer, improve fuel consumption, are less likely to fail and require less maintenance, reducing vehicle downtime and improving productivity – saving time and money. Benefits of the system include:

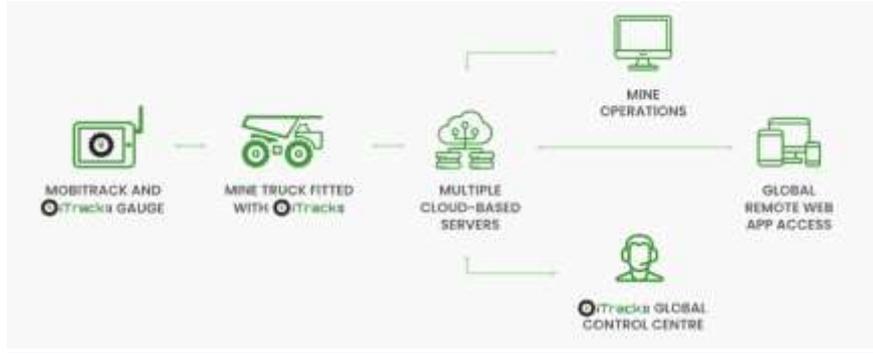
- Live tracking of tyre temperature and pressure
- Live tracking of vehicle location and status
- Increase vehicle and driver / technician safety
- Increase productivity by reducing vehicle downtime
- Maximise tyre life and performance
- Reduce tyre maintenance costs
- Early warning of potential tyre or vehicle failure
- Full-time monitoring (running and parked)
- Geo-fencing
- Real-time email and phone alerts
- Wi-Fi and GSM enabled
- Push-data enabled
- Configurable threshold alarms
- Data logging with timestamps

Truck downtime can be expensive for mine operators

Truck downtime, unscheduled maintenance and sub-optimal tyre usage impacts on customers’ revenue. iTrack can save mine operators over US\$5m across a 50 truck fleet annually on tyres alone, while reduced downtime can increase output by US\$1m per truck, per annum¹.

¹ Company

EXHIBIT 2: iTRACK SCHEMATIC



Source: ATMS

Mining trucks and tyres are expensive and iTrack helps to maximise tyre life

Ultra-size mine haul trucks can cost c.\$7m and its tyres upwards of US\$50,000 each and each tyre can typically contain up to c.2,000 pounds of steel, enough to build two small cars and enough rubber to make 600 tyres to put on them. It therefore makes sense to treat them carefully, to maximise tyre life and eliminate costly damage to them. This is where iTrack TPMS excels.

The dynamic vehicle information system (DVIS) receives information on tyre temperature and pressure from the sensors (for up to six wheel positions), displaying it directly to the driver via the in-cab display, whilst simultaneously logging and uploading live data such as braking, vehicle speed, route travelled, fuel consumption and location to a central location via GPRS and GPS.

EXHIBIT 3: iTRACK HARDWARE AND SOFTWARE



Source: ATMS

Alarms can be set to trigger when user configurable operational threshold levels such as tyre temperature are exceeded, providing early warning of potential tyre or vehicle failure.

The technology uses a bus interface which offers the ability to integrate with other vehicle systems. All data from the DVIS can be monitored remotely, in real-time, from any location with an internet connection via a browser-based interface enabling the user to track vehicles remotely, 24/7.

Continuous monitoring of key tyre data provides early warning of problems, allowing the user to avoid expensive tyre failures caused by overheating and incorrect pressures thus reducing tyre costs and maximising the productivity of every vehicle. The technology monitors the entire vehicle fleet in real-time, receives automated email and phone alerts

Exclusive 10-year worldwide licence granted to ATMS/Bridgestone in June 2020

and notifications based on key parameters to maximise operating performance which can be sent via Wi-Fi or phone.

The licence agreement

In June 2020, Transense announced that it had granted an exclusive worldwide licence to ATMS, a newly-formed wholly owned subsidiary of Bridgestone Corporation Japan (Bridgestone), covering all current and future iTrack technology for a period of ten years.

The operational business and trading assets relating to the iTrack system were transferred to ATMS at a net asset value of US\$1.31m in cash. This included the agreed value of the operational business and trading assets of US\$3.26m less the repayment of working capital loans provided by Bridgestone of US\$1.95m. The subsidiaries included in the transfer agreement were iTrack (Australia) Pty Ltd, iTrack North America Inc., iTrack (Slovakia) s.r.o., Translogik South Africa Pty Ltd, and Transense Technologies Chile SpA.

ATMS able to offer Bridgestone customers TPMS for all OTR vehicles

Under the licence, ATMS will offer Bridgestone customers its tyre monitoring systems for all off-the-road (OTR) vehicles based upon iTrack technology. In turn, Transense receives a quarterly royalty payment based upon the number and classification of vehicles upon which the iTrack technology is deployed over a ten-year period, including those trucks trialling the system.

Royalty payments to Transense on a quarterly basis with an initial run rate of £0.6m pa

At the end of the ten-year period, ATMS will have the option to purchase the iTrack technology for a nominal cash sum. The initial quarterly royalty based upon OTR vehicles utilising the iTrack system at that stage was estimated to be approximately £0.15m or £0.60m per annum. The royalty is based on the number of trucks utilising iTrack and varies depending on the classification

Licence award was the optimal route for monetising technology given the Company's limited resources

Why go the licence route?

Prior to the licence agreement, for the financial year ended 30 June 2019, the iTrack business generated revenues of £1.63m and contributed a loss before tax of approximately £0.62m and it was deemed appropriate by management that given the size of the Company and its limited resources the grant of the exclusive licence to ATMS would be the best route for Transense to monetise the technology.

Going it alone would incur not inconsiderable costs associated with the generation of client engagement including building sales, customer support and technical teams, opening a new London office to co-ordinate these activities, and extensive overseas travel.

Investors initially queried the commerciality of the licence agreement and benefits accruing to Transense

A number of investors initially considered that the iTrack business was sold to Bridgestone too cheaply, that royalty payments at £0.15m per quarter were modest and that the purchase of the iTrack technology at the end of the ten-year period for a nominal sum was effectively giving the IP away.

Our conclusion is that these concerns are not valid and that Transense negotiated the deal to the best of its ability and to maximise shareholder value over the longer term given the Company's limited resources at that time.

TPMS is a competitive market with some big players

It will be seen later in this report that the TPMS market is competitive with some big players. Not only do the major global OTR tyre manufacturers offer mine haul truck operators their own proprietary TPMS solutions but there are several independent private companies offering competing technologies in a market which, given its size, could be considered as already well served.

Transense would have had to spend many millions over many years for an uncertain outcome

Management believes, and the evidence would seem to corroborate this, that iTrack is probably the best system in terms of performance and price in the market. Nevertheless, without the Bridgestone deal Transense would have faced an uncertain future spending many millions of pounds in marketing, product promotion and sales over many years to gain any significant market traction while profitability and its timing would be equally uncertain.

A good outcome all things considered with the added bonus of the Transense chairman sitting on the Board of ATMS

The deal that Transense negotiated (that is what little we know of the detail as this is commercially sensitive) was remarkable, especially when one considers that Transense is a micro-cap company negotiating with a multinational behemoth. It is also significant that Transense Chairman Nigel Rogers was appointed to the Board of ATMS as a non-executive director as we believe this will add a useful perspective on iTrack's future market penetration and pipeline visibility.

Royalty stream over a 10-year period is all profit and cash for the Company with zero overhead

So instead of going it alone and facing many years of high marketing and selling costs for uncertain volumes and profits, it has secured a ten-year stream of increasing royalty revenue that is pure profit and cash. That has got to make sense all else considered and should create substantial shareholder value over the period of the licence agreement and allows management the time, space and money to monetise its SAW technology which could prove to have even greater potential than iTrack.

Forecasts global OTR tyre market worth \$7.6bn by 2025 and growing at 4.2%...

The global OTR tyre market

According to research house Goldstein Market Intelligence² the global OTR tyre market is forecast to be worth US\$7.6bn by 2025 and to grow at a CAGR of 4.2% over the period 2017-2030 with the Asia Pacific region, which dominates the global market, at around 28% market share growing fastest at a CAGR of 5.2%.

... with mining and construction accounting for over 60% of market...

Within the global market, based on end users, the construction and mining industry leads the way with a share of over 60% and is expected to grow at a CAGR of 5% over the forecast period.

...and dominated by the likes of Bridgestone, Michelin, Goodyear etc.

OTR OEM tyre manufacturers are dominated by Bridgestone and Michelin with secondary players that include Goodyear, Yokohama, China National Tyre, MRF and Continental.

Total population of active mining trucks estimated at 61,500 globally

The global market opportunity for iTrack and Transense

According to Parker Bay³, the population of mining trucks currently in operation at surface mines around the world numbers 49,500+ for trucks with payload ratings of 90 metric tons and above. In addition, in February 2020 there were more than 65,700 trucks of all payload ratings in the database factoring in those that are currently inactive and the current updated number stands at around 61,500.

Current royalty run rate of £0.6m based on an estimated 500 ultra-size trucks using iTrack

Transense's current royalty revenue run rate of £0.6m pa is based on an estimated 500 ultra-size mining trucks utilising the iTrack technology. It is interesting to note that around 450 of these trucks were fitted with iTrack prior to the JCA with Bridgestone being announced in August 2019, with the remaining 50 representing the iTrack units ordered by Bridgestone in February 2019 for installation in mines in North America.

Of this estimated installed base only 50 were fitted by Bridgestone

Thus, since the JCA, Bridgestone has not to our knowledge installed any iTrack systems onto customer trucks. The 50-unit order was mostly used in trials and evaluation work with customers and over the ten-month period between the JCA being signed and the licence awarded, Bridgestone was busy in pre-engagement contact with its major global accounts. This extended period is indicative of the inertia that needs to be overcome

² Goldstein Market Intelligence: Global OTR Tires Market (01/09/20)

³ Parker Bay Mining – mining equipment- mining trucks

before a “sale” is achieved, a process which includes trials, evaluation, installation etc - typically a 6-12 month sales cycle and often longer.

The client reaction during this phase gave Bridgestone the necessary confidence to move from the JCA to the licence model - and this in itself significantly accelerated client engagement, as Bridgestone is now selling an in-house technology rather than a third-party product.

Bridgestone is believed to have c.1,500 trucks fitted with B-TAG TPMS...

In addition to the estimated 500 trucks already fitted with iTrack, it is our belief that Bridgestone has an installed base of around 1,500 ultra-size trucks which are currently fitted with its own TPMS solution known as B-TAG.

...which it is no longer actively supporting and could lead to royalty of £24m across the licence period

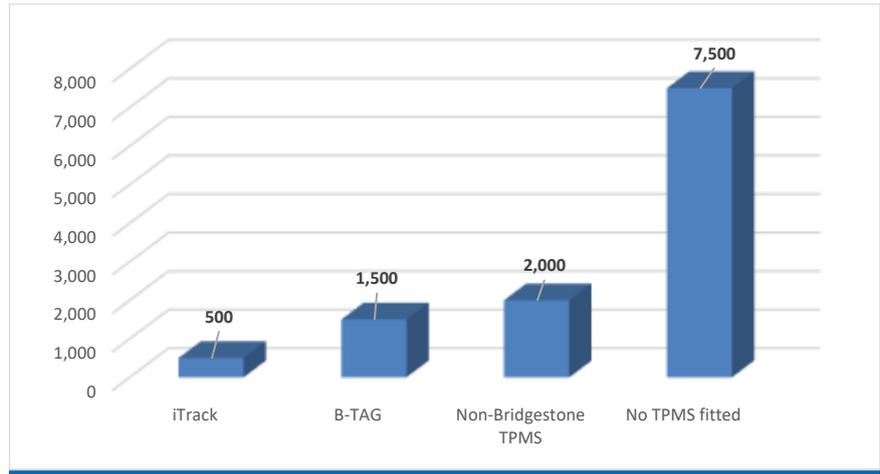
As we understand it Bridgestone is no longer actively supporting B-TAG and so it is logical to expect them to begin to steer customers towards the adoption of iTrack. Were this to be successful across all 1,500 trucks, this would theoretically increase the royalty attributable to Transense to £2.4m per annum or £24m across the licence timeframe.

We note that mine operators purchased B-TAG as a capital equipment item whereas iTrack is only available on a subscription model. This may require Bridgestone “sweetening the deal” somewhat to entice customers to switch over to the new service. Even if this were to be the case it would not affect the level of royalty due to Transense as the royalty is represented as a fixed price per truck, not a percentage of revenue. In the long run, if Bridgestone no longer supports B-TAG, operators will have little choice but to adopt iTrack, except perhaps to switch to a different and probably inferior system.

iTrack and B-TAG together account for an estimated 17% of the ultra-size truck market giving a total global market of c.11,500

Together, we believe that the estimated 500 trucks utilising iTrack and the c.1,500 using B-TAG represent around 17% of the ultra-size (tyre rims 57 inches and above) mining truck market (iTrack 4%, B-TAG 13%) and by implication gives a total global market of around 11,500 ultra-size trucks. Ultra-sized trucks, in turn, represent around 25% of total mine haul trucks by number and 35% of the potential TPMS market by value.

EXHIBIT 4: ESTIMATED MARKET SHARE OF TPMS IN ULTRA-SIZE MINE HAUL TRUCKS



Source: Transense; Allenby

iTrack/B-TAG installed in half of ultra-size trucks meaning that a further 2,000 utilise other TPMS systems

Transense has suggested that together, iTrack and B-TAG are installed in around half of the ultra-size mining trucks that are currently fitted with a TPMS system meaning that a further 2,000 trucks are currently running non-Bridgestone systems and could be targets for marketing iTrack into. These 2,000 are probably dominated by Michelin which uses its own proprietary TPMS called “MEMS4” and Goodyear which offers “Goodyear TPMS”.

As noted earlier, in addition to the proprietary systems offered by the major OTR tyre manufacturers, there are also several companies that offer TPMS solutions that are not

We estimate the global market opportunity in royalty income for Transense is £138m over the 10-year licence period

Reality will be a lot lower than the opportunity but we still expect to see significant growth in royalty income over the licence period

Allenby forecasts are based solely on the potential within ultra-size trucks but the licence covers all OTR vehicles not just mining trucks...

...although we suspect that Bridgestone’s immediate focus will be on marketing iTrack into the ultra-size market

tyre manufacturers. These include **RIMEX**, a Canadian-based company which offers “TyreSense”, **Valor**, also Canadian and which offers “Valor Extreme Duty TPMS”, **HawksHead** which offers “Talon TPMS” and **SST Wireless**, another Canadian company offering its own TPMS. There are undoubtedly many others, which serves to illustrate the competitive landscape that Transense had to contend with prior to its licence agreement with Bridgestone.

Given a global market of 11,500 ultra-size mine haul trucks and c.4,000 of those already fitted with some form of TPMS, this leaves around two thirds, or 7,500 which currently have no TPMS fitted at all and this is the part of the sector that ATMS will be particularly targeting along with the B-TAG installed base. Consequently, the global market opportunity for iTrack, just in ultra-size trucks can be very roughly calculated at £13.8m or £138m over the ten-year licence period.

We would emphasise that this is the theoretical addressable market opportunity whereas the actual penetration of the iTrack system will of course be substantially smaller. Nevertheless, these high-level projections indicate the prospect of a significant and growing royalty stream for Transense over the ten-year timeframe and what is more, it will be achieved with zero risk and zero cost to the Company and most importantly represent pure profit and pure cash.

Note, the above data and projections purely relate to ultra-size mining trucks which we believe to represent the area that ATMS will initially concentrate its marketing efforts on. **It is worth reiterating that our forecasts for iTrack royalty income are based purely on our projections for installation of the technology solution in ultra-size mine trucks. Any sales of the system into smaller mine trucks, or indeed any other OTR vehicle, are not included.**

There are many more smaller-sized mine vehicles currently active, few of which have TPMS fitted (although data on this is sparse) and although one might suspect that some will never have the technology applied, it still represents a significant additional market opportunity for iTrack and Transense further out.

We say further out because Bridgestone’s immediate focus, as noted above, would appear to be on marketing its tyres for the ultra-size mine truck market and this is clear from website extracts which we show below.

Bridgestone launches new revolutionary OTR tyre

We note that Bridgestone recently announced the introduction of its revolutionary “MasterCore” OTR tyre line at a press conference in Tokyo in August 2020. MasterCore tyres are engineered for ultra-high durability with performance that can be customised to various mine sites and operations. The MasterCore product line is launching initially with 63-inch tyres with additional patterns and sizes available to customers in 2021.

This ability for the tyre to be customisable to suit various mine conditions is, we believe, dependent upon the utilisation of iTrack technology and therefore we would suggest that the marketing of MasterCore will go hand in hand with the promotion of the iTrack system, ultimately leading to increased sales for Bridgestone/ATMS and royalty for Transense.

This would seem to be confirmed by Bridgestone’s own marketing campaign which clearly includes iTrack as a key component:

“Bridgestone is developing advanced mining solutions to meet customer needs and deliver social value. The company’s mining solutions offering includes Dan-Totsu (clear and absolute leader) products such as MasterCore, best-in-class service delivered by Bridgestone solutions engineers who are experts in mining tyres, mining solutions centres and the company’s iTrack solutions business.

NEW MASTERCORE TYRE

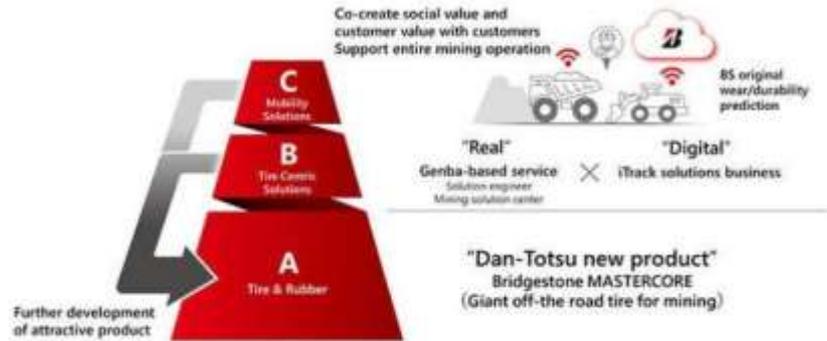


Source: Bridgestone Corp (Japan)

Bridgestone is leveraging its solutions business to improve resource productivity by combining the real and digital worlds to deliver integrated products, services and servicing networks that utilize tyre and mobility data.

By continuously feeding back data and knowledge obtained by the company's solutions offering, Bridgestone will further improve its product portfolio, expand its service offering and strengthen the company's tyre wear and durability prediction technology". (Our bold).

EXHIBIT 5: BRIDGESTONE MARKETING – INCLUDING iTRACK AS A KEY COMPONENT



Source: Bridgestone Corp (Japan)

Installed base of around 56,500 mining trucks with smaller rim sizes of which c.48,500 were active

Market opportunity for rim sizes below 57 inches

Analysis indicates that of the 68,000 global mine haul trucks there are a total of around 56,500 with rim sizes below 57 inches, although these include an unquantified number of trucks that are inactive and we refer to our earlier comments regarding Parker Bay’s analysis of the market suggesting that out of the 68,000 total there were 48,500 trucks (around 70%) active at all sizes.

The smaller mine truck market could offer a global royalty opportunity for Transense of £240m over the 10 years. However, this category is not included in our forecasts...

The 56,500 are further analysed as 12,000 with rim sizes 49-57”; 17,500 with rim sizes 35-49” and 27,000 with rim sizes under 35”. While our forecasts do not include sales to this market segment, we could make some assumptions as to the future potential although we would emphasise that this is blue sky analysis at this stage.

...but could equate to a total mine truck market opportunity of £378m in terms of royalty potential for Transense...

As regards the active market for smaller trucks we can utilise the percentage figure of 70% (see above) and apply that to the 56,500 trucks with rim sizes below 57 inches which gives a figure of approximately 40,000. A lower royalty rate of say £600 per truck (half the estimated rate assumed for ultra-sized trucks) would indicate a royalty market opportunity for Transense of around £24m or £240m over the ten-year licence agreement.

...a figure which does not include other OTR vehicles

Thus, we could project a total market opportunity in the mine haul truck market of around £378m over the ten-year licence agreement. Note that this is the opportunity not a revenue projection.

The licence agreement with Bridgestone, however, applies to all vehicles using OTR tyres which would include vehicles in the agricultural, construction and industrial markets. We have made no attempt to analyse this segment of the market as we believe that the most significant market for iTrack and Transense will be in mining vehicles.

SAW

The development and marketing of two types of SAW sensors...

...one for measuring torque and temperature and the other, pressure and temperature

SAW develops, markets and licenses patent-protected sensor systems for measuring torque, temperature and pressure, wirelessly and without the need for batteries, using Surface Acoustic Wave (SAW) technology. As no batteries or wires are required, the sensors can be used in applications that traditional sensors cannot, such as on rotating shafts or in environments where access to the sensors is difficult or potentially hazardous.

Transense has developed two distinct sensors, one measures torque and temperature and the other pressure and temperature, together with the requisite electronics to interrogate and read them. These sensors are being developed in conjunction with several international partners targeting sensor applications in the automotive, aerospace, industrial and marine market segments.

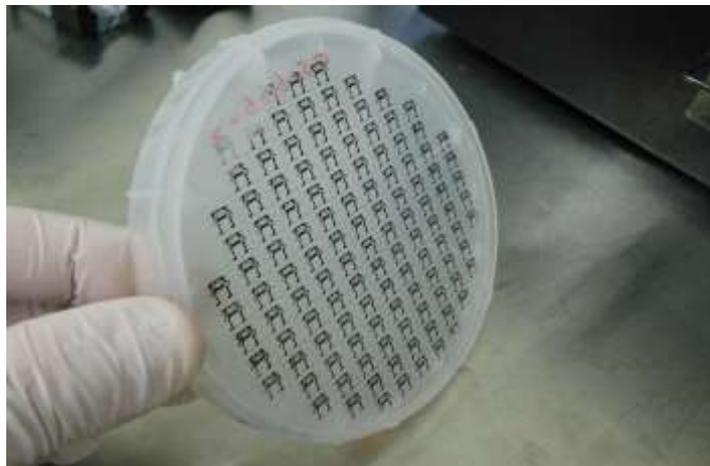
The technology

A SAW is an acoustic wave that travels along the surface of an elastic material. This kind of wave is commonly used in piezoelectric devices in electronic circuits. Such piezoelectric devices convert electrical pulses into mechanical vibrations and, conversely, mechanical vibrations into electrical pulses.

A SAW resonant sensor is designed to resonate at a certain frequency, but if its piezoelectric substrate distorts through heat, mechanical stress or pressure, it will resonate at a different frequency. When a radio wave is directed at this device to interrogate its properties, it will, in the absence of any external forces, reflect (back scatter) a wave of the same frequency to the source. If, however, the device is subject to external force, e.g. heat or stress, the reflected wave will be of a different frequency and that change in frequency can be measured.

The Company has developed a way of measuring the difference in frequency between these waves in a range of sensors, which can be used to accurately calculate torque, temperature and pressure. To read this change in frequency, Transense has also developed associated interrogation electronics and software. These SAW devices are fabricated utilising common processes employed in the manufacture of silicon integrated circuits.

EXHIBIT 6: 4 INCH WAFER OF SENSORS



Source: Transense

MoU signed with GE in May 2015...

The GE licence

In May 2015, Transense entered into a Memorandum of Understanding to develop new instrumentation applications utilising its SAW measurement technology with General Electric Company (GE). This development was designed to align the Transense SAW technology expertise with GE's proficiency in large scale production and product delivery and to open up new global opportunities.

...resulting in the award of a licence to GE in July 2016 with a fee of \$0.75m, plus a perpetual royalty to Transense for each unit utilising the technology

This MoU was successful and in July 2016, GE signed a licencing agreement with Transense for the use of its SAW technology in certain specific torque applications. The agreement, which was non-exclusive, included a payment to Transense of US\$500,000 on signing and a further payment of US\$250,000, following the SAW technology passing various tests conducted by GE. In addition, **GE has agreed to pay a perpetual sales royalty to the Company in respect of each unit using the technology.**

GE T901 engine to be used in ITEP for US Army each of which uses a SAW sensor

This licence agreement was followed by an announcement in February 2019 that GE Aviation's T901-GE-900 engine had been selected by the U.S. Army for the Engineering and Manufacturing Development (EMD) phase of the Improved Turbine Engine Program (ITEP), the U.S. Army's endeavour to re-engine its Boeing AH-64 Apaches and Sikorsky UH-60 Black Hawks. The T901 engine incorporates a Transense SAW sensor.

EXHIBIT 7: GE T901 ENGINE



Source: GE Aviation

Applicable to over 6,000 engines in US Army fleet plus replacement engines outside the USA

The US Army intends to replace the more than 6,000 engines installed in their current fleet of these two aircraft while the wider market for the T901 includes replacement engines for these aircraft in military forces outside of the USA as well as other military and commercial vertical take-off aircraft opportunities globally. GE will pay a perpetual sales royalty to Transense in respect of each unit using the technology, under the original license agreement announced in July 2016 and March 2017.

During 2020, the ITEP successfully completed each of three Critical Design Review (CDR) events and by completing the CDR, ITEP is positioned to execute the first engine to test (FETT) no later than the fourth quarter of the US fiscal year 2021.

The FETT will be the next critical milestone for the program. All of the subcomponents will be assembled and the engine started for the first time which will initiate the testing required to complete the Preliminary Flight Rating (PFR) needed to permit the future attack reconnaissance aircraft (FARA) competitive prototypes (CP) to conduct their first flights. As a critical component to the FARA CP first flight, ITEP is maintaining acceleration targets to ensure it meets the FARA timeline.

Royalty streams to begin to accrue to Transense in 2023/24

The PFR is scheduled for fiscal year 2022, which will deem the engine flightworthy. During fiscal years 2023 and 2024, the engine and platform integration and full qualifications will occur, culminating with Milestone C in fiscal year 2024 which should see initial royalty payments begin to accrue to Transense. However, GE Aviation is incentivised under the baseline contract to accelerate PFR by 12 months and is aggressively pursuing that approach with the Aviation Turbine Engines Project Office.

More opportunities seen in aerospace

Other potential opportunities and markets for SAW

Aerospace

In addition to the ITEP project with GE, opportunities in the Aerospace market are numerous. As well as the longer-term potential for introducing the SAW technology into other operators of the Boeing AH-64 Apaches and Sikorsky UH-60 Black Hawk helicopter fleets, the wider market for the T901 includes replacement engines for these aircraft in military forces outside of the USA as well as other military and commercial medium sized vertical take-off aircraft opportunities globally.

SAW sensors already installed in IndyCar series by McLaren and can be further extended to F1

Automotive and Autosport

The Company's sensors have also been installed on drive input shafts supplied to the NTT IndyCar series by McLaren, to provide encrypted torque data used to regulate the power rating permitted to individual race teams. There are further opportunities to expand the use of this technique into alternative race formats including Formula 1. The opportunities in autosport are however limited and of relatively small volume and are effectively seen as real-world test beds for the technology.

EV offer a longer-term opportunity for SAW technology to be embedded during the design phase...

The major opportunity is seen in recreational vehicles and in particular, electric vehicles (EV) where the SAW technology can be introduced into future projects in a timely fashion. SAW is in discussion with a number of Tier 1 and 2 suppliers offering its sensors in a variety of applications including power assisted steering torque sensors, camshaft torque sensors, 4WD torque splitter sensors and drive shaft torque sensors. We understand that one of these engagements is particularly well advanced and could be the subject of a licence agreement within the next twelve months.

New technology needs to be introduced at the early stages of large-scale projects, particularly in the automotive industry where new cars can take years of development before being introduced and unless this is integrated into a project at very early stages it is almost impossible to gain any commercial traction into the project.

...as evidenced by the GE licence award

This has clearly been the case with GE where Transense came in at a very early stage of the ITEP project and is now embedded into the system and this is equally true of the EV market, particularly as the importance of EV has been elevated by the accelerating emphasis on the phasing out of traditional internal combustion vehicles in the UK.

Industrial

Again, there are numerous applications where SAW sensors could have a significant impact including but not limited to, wind turbines, power plants and agricultural vehicles. Conversations with potential partners in these areas are at an early stage.

Slow progress to date as management focused on iTrack monetisation

Monetisation progress and strategy

To date the progress in monetising the SAW technology has been relatively slow as management and the Company's limited resources were focussed on developing and successfully licensing the iTrack technology. To date (excluding the up-front licence fee of \$750,000 from GE) revenue has been generated primarily through grant income and the manufacture of sensors for customer projects such as IndyCar.

Existing relationship with GE has possibilities to be extended into other GE programmes...

Nevertheless, while meaningful regular revenues have been lacking, management has secured the valuable licence agreement with GE which, if concluded successfully, will begin to produce a royalty revenue stream for Transense in FY2023/24. Importantly, the relationship with GE continues to strengthen and has in turn increased GE's commitment to Transense's SAW technology and Transense is aware of it being championed within GE's internal and external network.

...but more needs to be done to fully commercialise and monetise the technology

However, it is not enough to rely solely on the GE licence and the prospect of embedding its IP and know-how within other parts of GE but to introduce the technology to other prospective customers. In implementing the division's strategic goals it is necessary to leverage the technology in a commercial sense and to begin to monetise the intellectual property in SAW.

Transense has identified a number of potential strategic alliances in markets which could offer the prospect of future revenue streams through licencing and royalty income and has had preliminary discussions with a number of the leading companies in these markets including OEMs and Tier 1 and 2 suppliers. Most of these discussions are however subject to confidentiality agreements or cannot be named due to commercial sensitivities.

Commercialisation strategy to be led by new MD...

In the summer of 2020, the Board appointed Nick Hopkins as Managing Director of SAW. Nick had previously worked with Anthony and Bryan Lonsdale who were instrumental in developing the SAW applications used by Transense and is supported by Chief Technology Officer, Victor Kalinin. Since his appointment, the Board has approved plans to further develop the business.

...and a Commercial Advisory Panel

At the same time product marketing and customer engagement is being substantially ramped up and we are pleased to see that this is already happening under the aegis of Nick Hopkins and the formation of an influential panel of industry experts recently assembled to form a Commercial Advisory Panel (SAWCAP).

SAWCAP consists of a group of senior industrialists (see page for 27 for more details) with knowledge, experience and insight into key sectors such as automotive, aerospace, industrial and motorsport. It is now the Company's intention to implement plans to increase its market engagement, including direct referrals, as well as enhanced website(s), social media presence and participation in technical webinars and symposiums.

At SAWCAP's initial meeting target markets previously identified in the SAW strategic business plan were validated, and in each market there are several potential applications and customers. Work has now commenced to evaluate and prioritise which areas are both technically feasible and most likely to generate significant commercial value over the medium term.

Short-term aim is for SAW to make a positive contribution by end 2021

In the short-term the Company's aim is to generate additional commercial and grant support income to ensure that SAW makes a positive contribution to the Company's financial results, without reliance on other sources of group income, by the end of 2021.

In its own words, Transense states that beyond this relatively modest ambition, the Board has formulated plans to develop the Company's network in carefully selected market sectors which offer growth opportunities, including all forms of transport, both on-and off-road, to include the leisure, commercial and domestic markets, aerospace, industrial turbines and green energy.

Royalty income also generated from licensed suppliers of SAW components

As well as achieving licencing and royalty income from the customer utilisation of the SAW IP, Transense also receives licence and royalty income from its supply chain partners, primarily the manufacturer of the sensor itself and the manufacturer of the application specific integrated circuit (ASIC) that drives the sensor.

To incorporate Transense's SAW IP into commercial products customers are required to source sensors from SAW's licenced supply chain and for every unit provided to the customer by the supplier, the supplier has to pay Transense a royalty.

Costs to be kept under tight control with no speculative hires

Keeping control of overheads

Direct face to face sales and marketing is undertaken by Nick Hopkins, SAW's commercial manager and its technical officer with members of the SAWCAP acting as quasi-sales generators.

As business develops there will inevitably be a requirement for additional personnel such as application engineers. However, we are satisfied that the Board will keep tight control of costs and only appoint new staff as and when required by the level of business. The Board will not entertain hires on a purely speculative basis.

High margins and low costs

SAW is a high margin business with gross margins of around 90% reflecting, in the early stages, grant income and more latterly, licence fees and royalty streams. Our forecasts for revenue growth are prudent and see revenues rising to £207,000 in 2021, £282,000 in 2022 and £310,000 in 2023 but could be subject to upgrades.

Translogik

Translogik business acquired in 2008

As the progenitor of iTrack it is no surprise that Translogik is focused on the provision of tyre management solutions. The business was purchased by Transense in 2008 from a company called Trent Electronics (Trent) for £50,000 and Trent still manufactures the product range for Translogik to this day.

Technology focused on tyre probes...

Where iTrack offers remote temperature and pressure monitoring systems (TPMS) for OTR vehicles, Translogik's product portfolio focuses on probes that measure tyre tread depth and pressure, as well as temperature data collection tools for truck and bus tyre inspections, RFID (Radio Frequency Identification) tags, patches and UHF readers.

...designed for use by fleet management companies and software integrators

The product portfolio has been designed principally for fleet management companies in conjunction with the major global tyre manufacturers such as Bridgestone, Goodyear, Continental and fleet management software companies.

The current product range includes the TL-G1 Tyre Probe which Translogik has been selling for over 25 years and the new modular TLGX series 1 through 4, with models 3 and 4 incorporating RFID readers and 4 being the most recent introduction which also includes the ability to read TPMS sensors.

Translogik probes incorporated into all major tyre manufacturers proprietary tyre monitoring solutions

Over the past several years Translogik has worked alongside all of the major commercial tyre manufacturers including Bridgestone, Michelin, Goodyear and Continental to integrate its probes with the relevant software to provide an integrated solution for the tyre companies fleet customers. These proprietary solutions allow customers to check their tyre pressures and tread depth and so track the lifecycle of each individual tyre. This in turn saves fuel, limits risk and sends alerts when it is time for tyre replacement.

Proprietary tyre monitoring solutions utilising Translogik's probes are available from Michelin within its "iManage" tool, Bridgestone in its "Toolbox", Goodyear in its "TireOptix" system and Continental's "Fleetcheck" as well as numerous others.

Probably global leader in tyre monitoring systems

As far as we are aware Translogik probes are the global market leaders and have more probes integrated within the major tyre manufacturers than any of its competitors. It is also a global business with sales to over 40 countries and with Asia pacific probably accounting for around 50% of sales.

Product range

The **TL-G1** tyre inspection probe is the division's base product that has been available for the past 25+ years and is utilised and integrated into most of the major global tyre manufacturers' tyre monitoring solutions.

It provides extremely accurate & reliable tyre data instantly and can be sent to a wide range of mobile and desktop applications for storage and future analysis.

Translogik provides a number of apps for iOS, Android & Windows and the probe can also be used with custom software and integrated into existing systems.

TL-G1 PROBE



Source: Translogik

TLGX PROBE

Source: Translogik

Monetisation progress held back by management's focus on iTrack

Strong market opportunity to grow business but will be smaller than SAW

TLGX Series

The TLGX series 1 through 4 is a fully modular system and has been based around the TLI-G1 industry standard tyre inspection tool that has been in the market for 25+ years. The TLGX Series come with an impressive feature set and it is constructed from the most durable materials and thus unlocks fast and accurate tyre inspection technology.

The TLGX Series delivers Tyre Tread Depth, TPMS Sensor capabilities & RFID. Used by the largest brands in the industry the tool is developed for system integrators and fleet management software companies looking for the ideal tool to collect tyre data.

The TLGX1 offers tyre tread depth measurement, the TLGX2 offers tread depth measurement and manual tyre pressure, the TLGX3 provides tread depth, tyre pressure and an RFID reader while the top of the range TLGX4 provides all these features as well as a Tyre Pressure Monitoring System (TPMS) reader.

As mentioned earlier, the range has been developed primarily for system integrators and fleet management software providers and early indications of interest are encouraging.

Unit costs range from \$500 for a TL-G1 up to \$1,250 for a top of the range TLGX4 with the RFID and TPMS reader. Many tyre manufacturers are starting to embed RFID tags into their tyre building process which is likely to increase the demand for TLGX3 and 4 probes as fleet managers look to upgrade their monitoring systems.

Translogik monetisation strategy

To date Translogik's revenues have been modest with its best year being 2018 when revenues peaked at around £800,000. Since then, due to business development focusing on iTrack, marketing spend has reduced and hence revenues.

However, with the introduction of the TLGX series of probes and the addition of RFID readers we anticipate revenues reverting to annual growth as the business benefits from a reintroduction of a targeted marketing campaign.

The market opportunity for Translogik is substantial both for the introduction of new customers and for existing customers trading up to the new models, however this opportunity, compared to that anticipated from SAW and iTrack is relatively modest.

Revenues fell to £476k in FY2019 before recovering slightly to £510k in FY2020. We are anticipating a further modest increase in FY2021 to £555k, £611k in FY2022 and £672k in FY2023, but these forecasts are very conservatively based and have the capability of being upgraded as the year progresses.

In addition, the Translogik cost base is low and third-party manufacturing well established such that the division should be expected to generate gross margins of around 55% to 60% and make a positive contribution to the Company's profits and cash generation.

Forecasts and assumptions by division

We believe the following forecast to be based on very prudent assumptions and therefore our conviction remains high that these projections are not only achievable but are capable of being exceeded.

iTrack

EXHIBIT 8: ITRACK FORECASTS

	2020A	2021E	growth	2022E	growth	2023E	growth
	£000	£000		£000		£000	
Revenue	-	765	-	1,375	79.7%	2,254	63.9%
Gross profit	-	765	-	1,375	79.7%	2,254	63.9%
margin	-	100.0%	-	100.0%		100.0%	

Source: Allenby

Our forecasts are based on the growth in the deployment of the iTrack system by licensee ATMS. In part this is expected to be achieved through sales to new customers but also from current users of Bridgestone's own B-TAG system who are being encouraged by ATMS to upgrade to the more effective and superior iTrack technology.

Thus, we are forecasting the iTrack royalty income stream to rise from the current c.£600,000 per annum to £2.3m by end 2023, a forecast which we regard as conservative for the following reasons:

- Bridgestone has around 1,500 trucks running with B-TAG, none or very few of which have so far been upgraded to the iTrack technology. Given that Bridgestone is no longer actively supporting B-TAG we feel that this business represents low-hanging fruit for Transense.
- Bridgestone is actively encouraging B-TAG users to switch to iTrack.
- There is a significant prospect of iTrack gaining market share from the c.2,000 users of other less technologically advanced TPMS systems.
- Making inroads into the estimated 7,500 ultra-sized mine haul trucks currently operating with no TPMS at all.
- Transense has already had success in penetrating the above two markets through the estimated 500 iTrack systems deployed prior to the initial collaboration agreement with Bridgestone.

We also take significant comfort from the fact that the Transense Chairman sits on the Board of ATMS in a non-executive capacity and thus has a front row seat in relation to the progress of the iTrack installation pipeline and in consequence the desire for mining companies to switch to iTrack.

SAW

EXHIBIT 9: SAW FORECASTS

	2020A	2021E	growth	2022E	growth	2023E	growth
	£000	£000		£000		£000	
Revenue	93	207	122.6%	282	36.2%	310	9.9%
Gross profit	83	181	118.1%	253	39.8%	279	10.3%
margin	89.2%	87.4%	-2.0%	89.7%	2.6%	90.0%	0.3%

Source: Allenby

Short-term revenue visibility for SAW is less clear than for iTrack although we would propose that the potential for licensing the technology is equally as good, if not greater. The technology has a far wider market to address than that enjoyed by iTrack which in the short term at any rate is pretty much focused on ultra-size OTR mining trucks.

SAW technology can be applied to a myriad of sectors including automotive, aerospace, commercial and industrial across a global marketplace. To date of course, Transense's limited resources have been quite rightly focused on monetising the iTrack potential. Now that has been achieved, the focus will switch to SAW.

Even though earlier focus had been on iTrack, SAW achieved a landmark licence deal with GE and a licence fee of \$0.75m through the ITEP programme. This will begin to generate royalties from 2023/4 onwards and represents an annuity revenue stream for Transense that is likely to be generated over many years, if not decades, to come.

Filling the short-term revenue gap is now the primary focus of management and although we believe there are several ongoing discussions with potential licensees that have real potential for bridging that gap our forecasts are very conservative and we believe have a good prospect of being upgraded over the next six to twelve months. In 2020 and 2021, SAW generated and is projected to generate grant income of £118k and £49k respectively.

We would note that the marketing effort has been significantly advanced through the new appointment of Nick Hopkins as SAW Managing Director and the formation of an influential panel of industry experts recently assembled to form a Commercial Advisory Panel which is expected to generate new leads and help cement existing ones.

Translogik

EXHIBIT 10: TRANSLOGIK FORECASTS

	2020A	2021E	growth	2022E	growth	2023E	growth
	£000	£000		£000		£000	
Revenue	510	555	8.8%	611	10.1%	672	10.0%
Gross profit	249	333	33.7%	366	9.9%	403	10.1%
margin	48.8%	60.0%	22.9%	59.9%	-0.2%	60.0%	0.1%

Source: Allenby

Translogik is already generating a modest level of revenue and a positive contribution to the Company but which again has probably been held back from its real potential by the diversion of management time needed to secure the iTrack licensing deal with Bridgestone.

While it is unlikely to ever reach the size and potential of its two sister revenue generators, it should be remembered that Translogik was the progenitor of iTrack before it was split off to form its own division and we can see the potential for this relatively small rump of business to show good growth and continue to make a positive contribution to the Transense business and generate cash. Again we would emphasise that our forecasts are prudent and are capable of being raised.

Margins and costs

iTrack gross margin & costs

The primary generator of revenue for the Company is iTrack where the royalty income stream received by Transense on a quarterly basis represents a gross margin of 100% and this will not change over the course of the ten-year licence agreement, after which ATMS will have an option to purchase the iTrack technology for a nominal cash sum.

This revenue stream is generated on a zero-cost base as far as Transense is concerned and as a consequence drops straight to the bottom line as pure profit and pure cash.

SAW gross margin & costs

SAW's gross margins have historically been high at around 90% but revenues have been modest consisting in the main of grant income (hence the high margin) and revenue from the sale of sensors to NTT IndyCar.

In future years we anticipate gross margins to remain high as revenues continue to reflect further grant income and increasingly, royalty payments under new and existing licence agreements from customers and from existing licensed suppliers.

Sales of sensors by the Company itself are likely to be modest as the strategy remains to generate growth through the award of technology licenses.

Overheads in the financial year to June 2020 were £783,000 (including a one-off £138,000 impairment of intangible assets) up from £472,000 a year earlier and are expected to rise further as investment in the business increases and will now include the cost of the new MD and the more modest cost of the SAWCAP.

However, it is expected that project costs and operating overheads will only be increased as future success becomes more tangible.

Translogik gross margin and costs

Translogik's business typically attracts gross margins of around 55% and as sales of the new TLGX series of probes ramps up, particularly the 3 and 4 models, we would anticipate an increase in gross margin reflecting the higher margin available on these devices.

The Translogik cost base is low, last year being £121,000 and is likely to remain low as the number of personnel employed directly within this business is modest.

Taxation

The Company has, subject to HMRC agreement, Corporation Tax losses in excess of £20m and generated an R&D tax credit of £175k in FY 20 and we would expect at least £120k in FY21 prior to the reduction of internal R & D on iTrack.

Summary

Technology validated by several global corporations

The efficacy of Transense's various technologies has been validated over the past several years by numerous globally respected organisations such as Bridgestone (iTrack and Translogik), Goodyear (Translogik), General Electric (SAW), McLaren (SAW) and previously through the sale of the IntelliSAW division to US-based Emerson.

We therefore see no reason to remain anything but very confident that Transense will continue to add value for shareholders even though the current share price, in our opinion, significantly undervalues the Company.

£20m+ of tax losses available to set against future profits

In the last set of Company accounts we note that Transense had over £20m of available tax losses from which it can offset future profits. We therefore do not anticipate Transense paying mainstream corporation tax for the foreseeable future.

New market opportunities for SAW and Translogik...

The coming years will see a commercial revitalisation of the SAW platform which is, with the help of the recently established CAP, expected to open up new opportunities and markets for the technology while Translogik, albeit a more modest opportunity, will continue to increase its positive contribution to Transense results.

...significantly supported by strong and accelerating royalty income from iTrack

On top of this of course is the significant future royalty income stream from the Bridgestone licence which over the next ten years will provide an increasing revenue annuity and strong cash generation for the Company which we believe will be applied in funding further R&D and returns to shareholders through the payment of dividends and/or share buy backs.

Proposed change to capital structure indicates confidence in the future

In this respect, we are encouraged by the fact that at the AGM the Board will propose a change in the capital structure of Transense to facilitate the payment of future dividend distributions and share buy backs. This indicates very clearly management's confidence in the future performance of Transense.

Encouraging AGM statement

The AGM statement issued on 17 December was encouraging noting that:

"Revenues from SAW technology and Translogik probe products are substantially ahead of the modest level achieved in the equivalent period last year, and the rate of royalty income from iTrack, which was licensed out for ten years in June, has been increasing as expected and is expected to continue to do so as the licensee continues to implement its roll-out and marketing strategy.

The net result for the financial year to date is around break even and cash neutral, in line with management expectations, and the board is optimistic about the outlook for the second half of the year and beyond".

A great time to invest

As noted earlier, we believe forecasts to be prudently based but even on that assumption the EV/EBITDA ratio falls significantly to 4.4x in the financial year to June 2023 together with a modest PER of 6.6. We therefore repeat our assertion made on page one of this report that now is a great time to invest in Transense while the share price is attractively low.

Income statement and forecasts

EXHIBIT 11: INCOME STATEMENT AND FORECASTS					
Y/E June	£000 FY 2019A	£000 FY 2020A	£000 FY 2021E	£000 FY 2022E	£000 FY 2023E
UNDERLYING					
Revenue	596	603	1,527	2,268	3,236
Cost of sales	-221	-271	-248	-274	-300
Gross profit	375	332	1,279	1,994	2,936
<i>margin</i>	62.9%	55.1%	83.8%	87.9%	90.7%
Administrative expenses	-1,115	-1,131	-1,295	-1,412	-1,544
<i>as a % of revenue</i>	193.8%	187.6.1%	84.8%	62.3%	47.7%
Other income	79	118	49	0	0
Underlying EBITDA	-701	-681	33	582	1,392
<i>EBITDA margin</i>	-117.6%	-112.9%	2.2%	25.7%	43.0%
Depreciation	-41	-90	-28	-25	-21
Amortisation	-384	-482	-200	-200	-200
Underlying operating profit/(loss)	-1,126	-1,253	-195	357	1,171
<i>Operating profit margin</i>	-188.9%	-207.8%	-12.8%	15.7%	36.2%
Finance income/(expense)	2	-12	0	0	0
Underlying profit/(loss) before tax	-1,124	-1,265	-195	357	1,171
Tax	283	175	120	60	60
Underlying profit/(loss) after tax	-841	-1,090	-75	417	1,231
STATUTORY					
Underlying operating profit/(loss)	-1,126	-1,253	-195	357	1,171
Exceptional items	0	0	0	0	0
Statutory operating loss	-1,126	-1,253	-195	357	1,171
Finance income/(expense)	2	-12	0	0	0
Statutory (loss)/profit before tax	-1,124	-1,265	-195	357	1,171
Tax	283	175	120	60	60
Statutory (loss)/profit after tax	-841	-1,090	-75	417	1,231
Weighted average shares (m)	13.185	16.307	16.307	16.307	16.307
Year-end shares (m)	16.307	16.307	16.307	16.307	16.307
EPS Basic (p)	(6.38)	(6.68)	(0.46)	2.56	7.55
EPS FD (p)	(6.38)	(6.68)	(0.46)	2.56	7.55

Source: Transense; Allenby

Balance sheet and forecasts

EXHIBIT 12: BALANCE SHEET AND FORECASTS					
Y/E June	£000 FY 2019A	£000 FY 2020A	£000 FY 2021E	£000 FY 2022E	£000 FY 2023E
Non-current assets					
PP&E	529	290	259	228	197
Intangible assets	946	844	792	740	688
Trade lease receivables	0	0	0	0	0
Total non-current assets	1,475	1,134	1,051	968	885
Current assets					
Inventories	566	63	63	63	63
Tax	0	175	0	0	0
Receivables	789	1,677	288	632	900
Cash	2,647	1,193	1,003	1,110	2,100
Total current assets	4,002	3,108	1,354	1,805	3,063
Total assets	5,477	4,242	2,405	2,773	3,948
Current liabilities					
Payables	-604	-854	-72	-87	-97
Borrowings	0	-976	0	0	0
Lease liabilities	0	-61	0	0	0
Tax	-55	0	-30	-35	-40
Provisions	-70	0	0	0	0
Total current liabilities	-729	-1,891	-102	-122	-137
Non-current liabilities					
Lease liabilities	0	-168	-195	-132	-65
Borrowings	0	0	0	0	0
Total non-current liabilities	0	-168	-195	-132	-65
Total liabilities	-729	-2,059	-297	-254	-202
Net current assets	3,273	1,217	1,252	1,683	2,926
Net assets	4,748	2,183	2,108	2,519	3,746
Equity					
Share capital	5,451	5,451	1,631	1,631	1,631
Share premium	2,591	2,591	0	0	0
Reserves	-3,294	-5,859	477	888	2,115
Total capital	4,748	2,183	2,108	2,519	3,746
BALANCE SHEET RATIOS					
Y/E June	£000 FY 2019A	£000 FY 2020A	£000 FY 2021E	£000 FY 2022E	£000 FY 2023E
Long-term financial debts	-	-	-	-	-
Short term financial debts	-	(976)	-	-	-
Gross (debt)	-	(976)	-	-	-
Cash and cash equivalents	2,647	1,193	1,003	1,110	2,100
Net (debt) / cash	2,647	217	1,003	1,110	2,100
Acid test (Current Assets less inventory / Current Liabilities)	4.71	1.61	12.66	14.28	21.90

Source: Transense; Allenby

Cash flow and forecasts

EXHIBIT 13: CASH FLOW AND FORECASTS					
Y/E June	£000 FY 2019A	£000 FY 2020A	£000 FY 2021E	£000 FY 2022E	£000 FY 2023E
Loss from operations	-1,465	-2,542	-195	357	1,171
Financial income	-2	9	0	0	0
Tax	-266	-171	0	0	0
Loss on disposal of trade & assets	0	72	0	0	0
Depreciation	369	538	28	25	21
Loss on disposal of fixed assets	0	18	0	0	0
Amortisation	396	504	200	200	200
Share based payments	0	0	0	0	0
Unrealised currency gain/(loss)	0	0	0	0	0
Cost of capital restructure	0	0	0	0	0
Operating cash flow before WC	-968	-1,572	33	582	1,392
<i>(Increase)/decrease in receivables</i>	<i>-91</i>	<i>-177</i>	<i>-156</i>	<i>-344</i>	<i>-268</i>
<i>Decrease/(increase) in payables</i>	<i>247</i>	<i>477</i>	<i>18</i>	<i>15</i>	<i>11</i>
<i>Decrease/(increase) in inventories</i>	<i>119</i>	<i>-582</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Decrease/(increase) in lease receivables</i>	<i>0</i>	<i>0</i>	<i>-60</i>	<i>-64</i>	<i>-67</i>
Net change in WC	275	-282	-198	-393	-324
Cash used in operations	-693	-1,854	-165	189	1,068
Tax	266	-4	120	60	60
Net cash used in operations	-427	-1,858	-58	239	1,122
Interest received	2	8	0	0	0
Purchase of PP&E	-424	-764	-36	-36	-36
Purchase of intangible assets	-433	-513	-96	-96	-96
Proceeds from disposal of trade & assets	0	772	0	0	0
Net cash used in investing activities	-855	-497	-132	-132	-132
Proceeds from issue of shares	2,335	0	0	0	0
Loans advanced	0	1,585	0	0	0
Loans repaid	0	-609	0	0	0
Interest paid	0	-17	0	0	0
Payment of lease liabilities	0	-58	0	0	0
Net cash from financing activities	2,335	901	0	0	0
Net change in cash	1,053	-1,454	-190	107	990
Cash at start of year	1,592	2,647	1,193	1,003	1,110
FX	2	0	0	0	0
Cash at end of year	2,647	1,193	1,003	1,110	2,100

Source: Transense; Allenby

The Board

Nigel Roger – Executive Chairman

Nigel qualified as a Chartered Accountant in 1983, spending eight years with PwC before moving into industry. He has over twenty years' experience as a director of listed businesses, including thirteen years as Group CEO of both AIM listed Stadium Group Plc (2001-2011) and 600 Group Plc (2012-2015).

Nigel serves on both the Audit and Remuneration committees. In addition to his responsibilities at Transense, he is also Chairman of AIM listed Surgical Innovations Group Plc and was recently appointed as Chairman of AIM listed Solid State plc.

Melvyn Segal – Finance Director

Melvyn is a chartered accountant and during his career of 22 years as a senior partner of mid-sized accountancy firm Arram Berlyn Gardner he specialised in business advice, audit and taxation and was involved in the successful sale of the firm's financial services arm. On leaving the profession Melvyn has been active as company finance director and Non-Executive director of successful SME's.

Rodney Westhead – Non-Executive Director

Rodney qualified as a Chartered Accountant in 1967 spending time with PwC and Grant Thornton, the latter including a term as managing partner of the London office. His experience in Industry commenced in 1992 at Ricardo Group plc, a major automotive consulting engineering group with sales of £200 million a year, where he was finance director and subsequently CEO.

After leaving Ricardo in 2005 he has had the following appointments, became Chairman of Carter and Carter Group plc, Chairman of Clean Air Power Limited and a non-executive director of AEA Technology plc, Mouchel Plc and ACTA spa. Rodney was a member of council at Brunel University.

SAW Commercial Advisory Panel

The SAW Commercial Advisory Panel (SAWCAP) consists of six industry specialists who meet four times a year, the first meeting having been held on 8 December 2020. Feedback from the outcome of the meeting has been very positive and indicates that the SAWCAP can add significant commercial value going forward. The majority of the members are well known by the Board and relationships in the most part go back several years.

Members are paid a fee of £1,500 per meeting so a total overhead of £36,000 per annum is seen as offering exceptional value to the Company, while its members also benefit from the interaction within the Panel and potential business opportunities that may become available for the commercial entities that they are employed by.

Two of the Panel members have not been named for commercial reasons but the remaining four have bios as follows:

Dr. Alan Lowdon

Alan has over 30 years' experience in international energy and utilities with senior roles including Rolls Royce Industrial Power, British Gas and Shell, and as Director of Technology & Innovation at the UK National Renewable Energy Centre. He currently has several interests, including as Professor in Practice at Durham University Energy Institute, Director of Strategic Development at the National Offshore Wind Institute, New Bedford, Massachusetts, and advisory roles at the US Department of Energy, Suez, the National Renewable Energy Laboratory and Innovate UK.

Ian Penny

Ian has 30 years' experience in engine engineering, propulsion systems and applications. He is currently an independent consultant and formerly worked at Ricardo where he was Global Product Group Director, Engines. Prior to this Ian was MD, Engine Business Unit at Ricardo, where he led all aspects covering passenger car, light and heavy commercial and off-road vehicles.

Matthew Richards

Matthew is Managing Director of Steatite, the manufacturing division of Solid State PLC. Matthew has over 30 years' experience in defence electronics, including previously as MD of API Technologies Corporation, an RF and Security solutions business.

Prof Dr-Ing Karl Viktor Schaller

Viktor is currently an Honorary Professor at the Technical University of Munich and Managing Director of kvs consulting. Previously, Dr. Schaller was the Executive Vice President Engineering of motorcycles at BMW AG from April 2014 to July 2019 and Technical Director of the Engineering Heavy Trucks division at MAN Truck and Bus SE until 2006. He then served as a Board Member at MAN and was responsible for product development, purchasing and planning. During his tenure at MAN from 1990 to 2009, he headed various departments including those responsible for development of alternative drive systems (batteries, various hybrids, natural gas, hydrogen in ICE and fuel cells) and heavy trucks.

Other associates

In addition, the Panel has the benefit of regular input from associates and consultants whose expertise covers other target market sectors, including automotive engineering in conventional and electric/hybrid, rail and marine.

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Allenby Capital, 5 St Helen’s Place London EC3A 6AB, +44 (0)20 3328 5656, www.allenbycapital.com