



RANPLAN GROUP AB

# Annual Statement 2021



*Perfecting Wireless Networks*



# Resilience amid lingering constraints

## Second half of 2021 (second half of 2020)

- ◆ Total income amounted to SEK 14.9 million (13.2 million)<sup>1</sup>
- ◆ Net sales amounted to SEK 7.0 million (5.0 million)
- ◆ Operating income amounted to SEK -12.3 million (-15.2 million)
- ◆ Net income amounted to SEK -13.3 million (-16.4 million)
- ◆ Earnings per share amounted to SEK -0.49 (-0.75)
- ◆ Cash at the end of the period amounted to SEK 17.4 million (2.6 million)

## Full year of 2021 (Full year of 2020)

- ◆ Total income amounted to SEK 32.3 million (25.1 million)<sup>1</sup>
- ◆ Net sales amounted to SEK 15.3 million (9.7 million)
- ◆ Operating income amounted to SEK -21.9 million (-34.1 million)
- ◆ Net income amounted to SEK -23.9 million (-36.9 million)
- ◆ Earnings per share amounted to SEK -0.93 (-1.76)
- ◆ Cash at the end of the period amounted to SEK 17.4 million (2.6 million)
- ◆ The Board proposes that no dividend be paid for 2021 (no dividend)

*1 Total income comprises the sum of net sales (related to commercial products and services), other income (associated with research projects) and other operating income (derived mainly from R&D tax credits).*

## Significant events in the first and second half of 2021

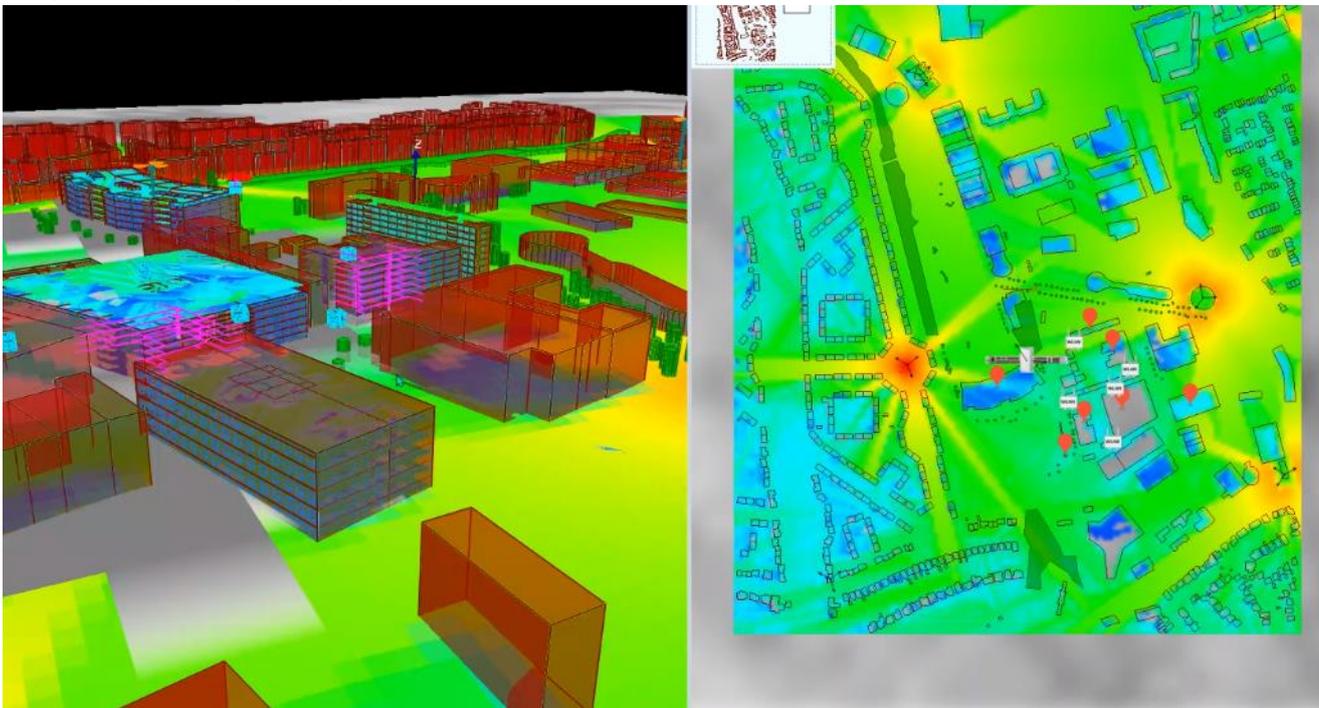
- ◆ On 21 February 2021, Ranplan signed a technology and reseller partnership with Magna Systems, a market leader in providing comprehensive and innovative RF solutions for telco customers in the Asia Pac region.
- ◆ On 17 May 2021, at the AGM in Stockholm, it was resolved that Tomas Isaksson be re-elected as chairman of the board, and that Jie Zhang, Wen Yang and Jon Ullmark be re-elected as ordinary members of the board (Jinxing Xue and Per Lindberg declined re-election as ordinary members of the board).
- ◆ On 15 June 2021, Ranplan Wireless launched the first version of its Automatic Cell Optimiser (ACO) module.
- ◆ On 18 August 2021, Ranplan announced that Chongqing College of Electronic Engineering (CQCEE) - one of the leading technical institutions in China - has awarded Ranplan Wireless a contract worth around USD 140k (SEK 1.2 million) for the provision of software licenses, training and support over a three-year period. Deliveries of the software resulting in net sales are envisaged to take place in the second half of the 2021 calendar year.

- On 21 Sept 2021, the Board of Directors, in accordance with its authorisation from the Annual General Meeting of 17 May 2021, decided to carry out a directed issue in the amount of SEK 27 880 000 before transaction costs by issuing 3 400 000 new shares at a subscription price of SEK 8.20 per share. Subscribers in the Directed Issue encompass three Nordic funds (St Petri Capital, Modelio Equity and a Family Fund based in Denmark) as well as two existing shareholders (Wilhelm Risberg and Fredrik Lundgren).
- On 22 Sept 2021, the Board of Directors published convening notice for extraordinary general meeting ('EGM') to be held in Stockholm on Monday 18 October 2021. The board proposed that the EGM resolve on a Set-Off Issue whereby loans in the amount of SEK 23 780 000 be converted into 2 900 000 new shares. The conversion price at SEK 8.20 – like the Directed issue - was determined by the 30-Day volume-weighted average share price in the market between 9 Aug and 17 Sep 2021 after applying a discount of 1.5%.
- On 18 Oct 2021, at an extraordinary general meeting in Stockholm, it was resolved that the proposed Set-Off Issue be carried out. The resolution was made in accordance with the proposal of the Board of Directors.

## Significant events after the end of calendar 2021

- On 8 February 2022, Ranplan Wireless announced by means of a news feed that it has signed a reseller partnership agreement with BESCom, an innovator of private radio and mobile network solutions in Europe.
- On 23 February 2022, Ranplan announced that it has cemented its partnership with CommScope Inc.

## Ranplan helps design and optimise indoor and outdoor wireless networks in complete coordination



# Words from the CEO

*In a year noticeably restrained by covid-related concerns, component shortages and surging input prices, the financial performance of Ranplan Group displayed healthy resilience. Net sales drawn from commercial products and services rose by 58% on the low-point of calendar 2020 while losses from operations – with all R&D expenses accounted for - fell by 36%. Operationally, substantial progress was registered. Relationships with existing customers were cemented and several new significant ones were won. Our suite of state-of-the-art software offerings, spanning an increasingly comprehensive universe of capabilities, received accolades for their accuracy, functionality, productivity, useability and versatility.*

*Although affected by delays of various nature, the demand picture – an indicator of forthcoming orders – appears vibrant across the globe. In 2021, all regions of any materiality showed solid growth. As society at large recuperates from the pandemic – its repercussions will stay in living memory – one can envisage (courtesy of pent-up demand) at least a resurrection of pre-covid project plans. Whilst timing of such events is fraught with uncertainties, we will increasingly shift our focus to commercialising our products and services, mobilising all internal and external resources. As a corollary, we will put less emphasis on research projects, with a commensurate reduction in Other Income and associated operating activities.*

*In September 2021, the balance sheet was fortified through a directed issue (in which three institutional and two private investors took part) and a set-off issue (through which debt was converted into equity). As calendar 2021 came to a close, net cash stood at SEK 17.4 million (up by SEK 22.9 million from the end of 2020) with the full capacity of the credit line (SEK 50 million or c. USD 5.5 million) still being available. These facilities make us well prepared to ramp-up investments should attractive opportunities emerge.*

**Nowhere is our optimism** greater than in the field of Private Wireless (also known as Enterprise Cellular, CBRS in the US, or Local 5G in Japan) – a segment, building-centric, green-field and tailor-made in character that is ideally suitable to our wireless design expertise, field experience and software tools. Our unique ability to master the design of indoor (in-building) and outdoor networks in complete coordination, harmony and unison - using the very same logic within a single, unified software tool – allows all parties involved to meet specific key performance criteria, on a case-by-case basis, while, crucially, ascertaining that interference between the private (enterprise) the public (general) networks are minutely controlled.

**The frenzy surrounding this space**, amplified by the release of new spectrum or the flexible sharing of existing ones, is likely to continue unabated in 2022 and beyond. It sets the scene for the influx of a series of new actors - hyper-scalers, system integrators, enterprises, neutral hosts (asset owners) - which in collaboration or competition with traditional mobile network operators and equipment vendors seem destined to catapult investments in a bid to seize a leading role in perfecting 5G for industrial applications.

**Making our modules available as cloud applications** buoys the commercial appeal of our offerings. With access to virtually unlimited computing resources, the virtues of **Precise Design** – a signature of Ranplan and an absolute necessity for the smart factory of the future – is likely to become increasingly obvious to increasingly many. Through the development and provision of APIs (applications programming interfaces) and SDKs (Software Development Kits), we stand prepared to ease integration with third parties including leading providers of OSSs (Operations Support Systems), the next generation of SONs (Self-Organising Networks) under the banner of O-RAN: RICs (RAN Intelligent Controllers). As an entrant with passion for

*automation, and innovation through development of software code, we embrace openness. We believe in a world without vendor lock-ins, one where customers enjoy proper freedom of choice, where they mix-and-match from a package of best-of-breed components without onerous integration costs.*

***We are well placed to expand** our own operations, go-to-market resources and networks of partners, including, highly qualified and strongly motivated resellers, software system architects and a growing roster of providers of communications platforms. Our products and services continually win terrain. Our customers seek better and safer alternatives than they may have experienced in the distant past. Our agility, dependability and objectivity (independence from any hardware ties) garner recognition, at a time when the next generation of beamforming antennas emerge as a chief point of vendor differentiation.*

***In conclusion, we feel that we have wind in our sails. We are spirited by our competency, ingenuity, and tenacity.** We possess deep knowledge, a clear mission and a sense of purpose. We are encouraged by the breadth and depth of demand. We benefit from migrations to cloud-native architectures. We advance our competitiveness vis-à-vis a group of a very select few. As appropriate and customary, I wish to end my remarks by thanking all of our customers, employees, contractors, partners and shareholders. Our journey has had its ups and downs, produced memorable milestones and suffered the effects of exogenous shocks in recent years. Although the date of arrival may be somewhat postponed – not at all unheard of in the global software sector - the final destination of our journey still looks well within reach. In the telecom industry, patience (where required), perseverance and professionalism do serve one well.*



Per Lindberg, CEO



## Summary of the period

The second half of 2021, on an adjusted basis, essentially extended the pattern noticed in the first six months of the year. Underlying demand remains robust but various restrictions related to the corona virus continue to pose challenges to operations in general and commercial activities in particular. While net sales and total income shrank and reported operating losses rose on the first six months of the year, cash flow from operations, improved meaningfully to -SEK 8.7 million versus -SEK 18.0 million in H1 2021. All factors considered, including periodic fluctuations, underlying performance remains largely invariant.

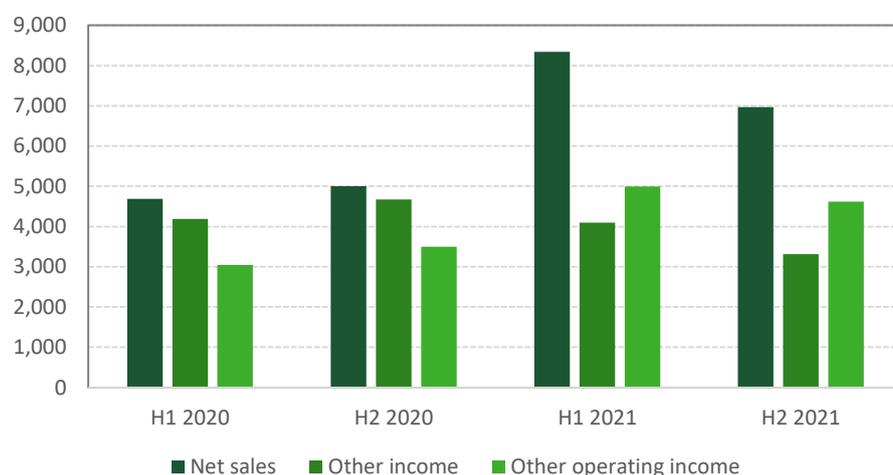
## Financials

### Profit & Loss

Total income in the second half of 2021 (1 July – 31 Dec 2021) amounted to SEK 14.9 million, translating into an increase of 13% in comparison with the second half of 2020 and a decrease of 15% in comparison with the first half of 2021. Net sales emanating from commercial products and services of SEK 7.0 million rose by 39% versus H2 2020 and retrenched by 16% versus H1 2021. For the full year of 2021, net sales expanded by 58% with healthy growth registered in all major regions of operations. Other income related to research projects of SEK 3.3 million in the second half of 2021 contracted by 29% and 19% versus the year- and half-year earlier periods respectively. A more significant decline is envisaged in 2022 – though with a commensurate decrease of associated R&D activities – as a consequence of a decision to prioritise commercial activities. Other operating income, drawn from R&D tax credits, climbed by 32% on a year-on-year basis to SEK 4.6 million, and only slightly (7%) short of the figure of SEK 5.0 million for H1 2021 (which included a one-time catch-up to the tune of SEK 1.3 million related to 2020, see H1 2021 report).

### Total income by component\* by half- and full-year period

(SEK 000s)



SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Net sales	4,686	5,005	8,345	6,970	9,691	15,315
Other income	4,192	4,674	4,097	3,314	8,866	7,411
Other operating income	3,044	3,501	4,993	4,619	6,545	9,612
<b>Total Income</b>	<b>11,922</b>	<b>13,180</b>	<b>17,435</b>	<b>14,903</b>	<b>25,102</b>	<b>32,338</b>

\*Total income is defined as the sum of net sales, other income and other operating income. Net sales relate to commercial products and services, Other income to research projects and Other operating income mainly to R&D tax credits in the UK.

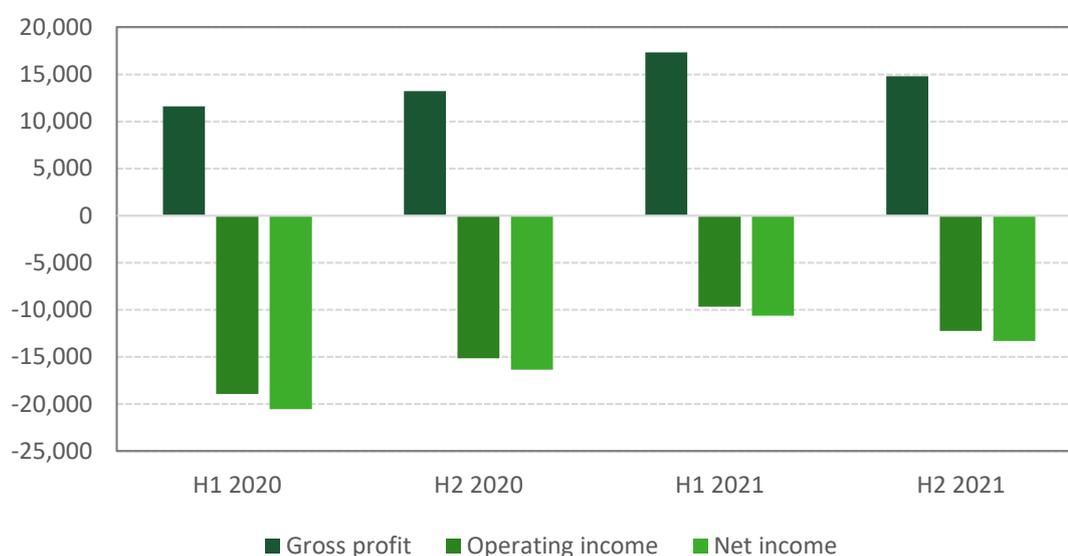
**Contributors to income (percentages of the total) by half- and full-year period**

SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Net sales	41%	37%	48%	47%	39%	47%
Other income	34%	36%	23%	22%	35%	23%
Other operating income	25%	27%	29%	31%	26%	30%
<b>Total Income</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Operating income** in the second half of 2021 amounted to -SEK 12.3 million, a level which on an adjusted and comparable basis, is deemed on par with that registered in the first six months of 2021. It represents a noticeable (19%) improvement from the loss of SEK 15.2 million recorded in H2 2020. Net income reached -SEK 13.3 million versus -SEK 10.6 million and -SEK 16.4 million in H1 2021 and H2 2020, respectively.

**Gross and operating profit and net income by half- and full-year period**

(SEK 000s)

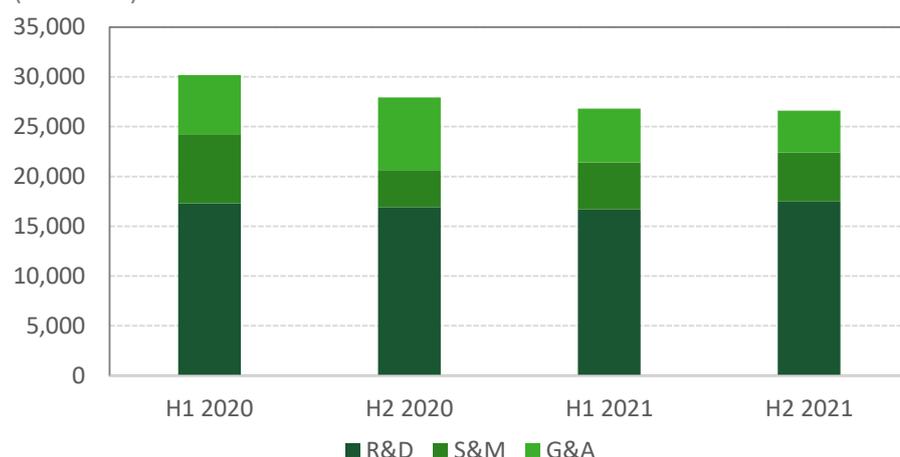


SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Gross profit	11,589	13,225	17,322	14,801	24,814	32,123
Operating income	-18,912	-15,151	-9,671	-12,258	-34,063	-21,929
Net income	-20,546	-16,355	-10,634	-13,288	-36,901	-23,922

**Operating expenses** attributable to research and development (“R&D”), sales and marketing (“S&M”) as well as general and administration (“G&A”) amounted to SEK 26.6 million, 1% and 5% lower than in the first half of 2021 and second half of 2020, respectively. It is worth noting that, in support of renewed commercial efforts, sales and marketing expenditures rose by 33% compared with the second half of 2020. On a like-for-like basis, R&D investments – all of which expensed as incurred – held relatively steady at SEK 17.5 million.

## Operating expenses by component\* by half- and full-year period

(SEK 000s)



SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
R&D	17,305	16,928	16,668	17,471	34,233	34,139
S&M	6,923	3,723	4,725	4,934	10,646	9,659
G&A	5,942	7,280	5,432	4,195	13,222	9,627
<b>OPEX</b>	<b>30,170</b>	<b>27,931</b>	<b>26,825</b>	<b>26,600</b>	<b>58,101</b>	<b>53,425</b>

\*Operating expenses ("OPEX") consists of expenses associated with research and development ("R&D"), sales and marketing ("S&M") and general functions and administration ("G&A").

**Gross profit**, here defined as the difference between total income and cost of sales, increased by 12% in comparison with second half of 2020. The gross margin, calculated as the ratio of gross profit and total income, remains at close to 100%, reflecting the inherent attractiveness of a business model revolving mainly around the scalability of *Net sales (software licensing)* with no inclusion of any third-party commercial software. In this context, it should be noted, though, that resale of other third-party products, such as geo-data, and services may occur and that costs associated with *Other income* (research projects) and *Other operating income* (R&D tax credits) according to our accounting principles are captured mainly by operating expenses.

**Operating cash flow (OpCF)** in the second half registered at -SEK 8.7 million versus -SEK 18.0 million and -SEK 14.7 million in the first half of 2021 and the second half of 2020 respectively. Much of the variation between the first and the second half of 2021 is directly attributable to movements of working capital (net receivables).

### Summary by half- and full-year periods

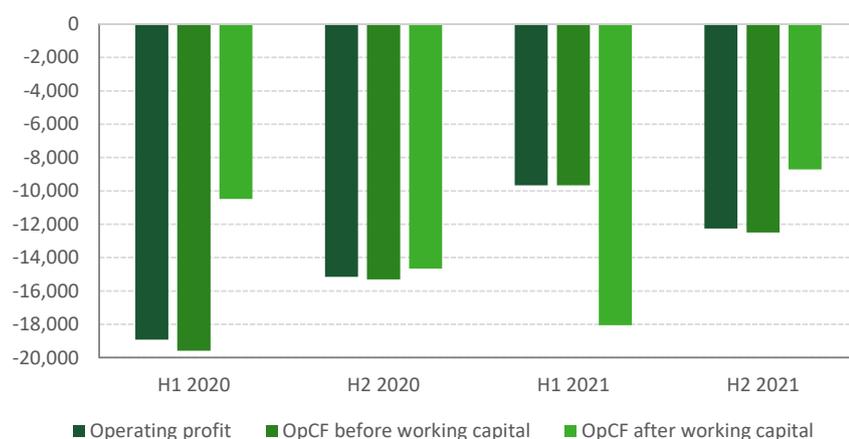
SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Total income	11,922	13,180	17,435	14,903	25,102	32,338
Net sales	4,686	5,005	8,345	6,970	9,691	15,315
<i>Net sales/Total income</i>	39%	38%	48%	47%	39%	47%
Gross profit	11,589	13,225	17,322	14,801	24,814	32,123
<i>Gross margin</i>	97%	100%	99%	99%	99%	99%
OPEX	30,170	27,931	26,825	26,600	58,101	53,425
EBIT	-18,912	-15,151	-9,671	-12,258	-34,063	-21,929
OpCF	-10,491	-14,662	-18,048	-8,704	-25,153	-26,752
<i>OpCF/EBIT</i>	55%	97%	187%	71%	74%	122%

Gross profit here comprises the difference between total income and cost of sales.

Gross margin is here defined as the ratio of gross profits and total income.

## Operating profit, cash flow (“OpCF”) before and after working capital by half-year period

(SEK 000s)

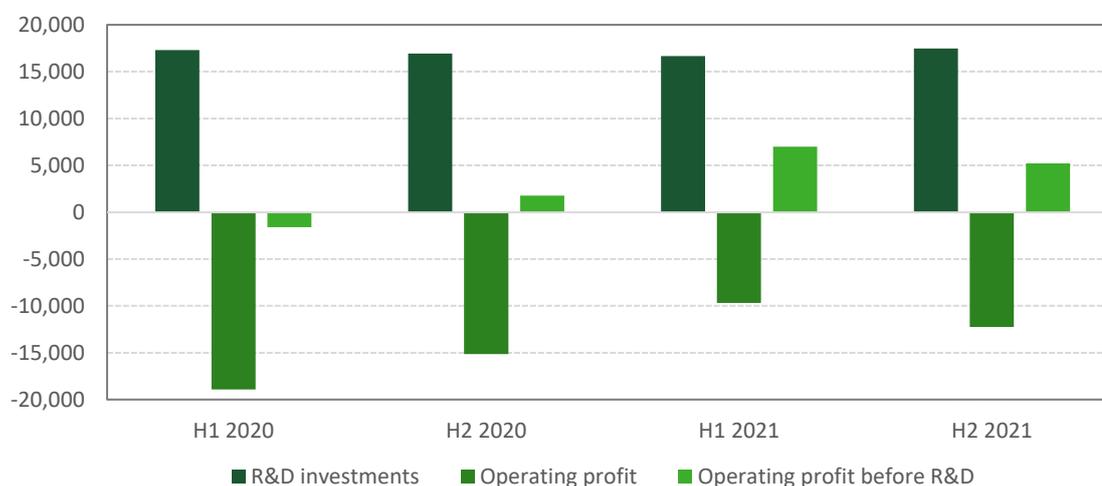


### Accounting for R&D expenses

In judging the income statement, readers may wish to observe that the Company absorbs all R&D expenses directly (no capitalisation or amortisation takes place). As an alternative assessment of financial performance, investors may note that in the calendar year 2021, the Company incurred a surplus SEK 12.2 million at the operating level before R&D expenses, equivalent to 38% of total income – these figures can be compared with an operating loss on a reporting basis of SEK 21.9 million corresponding to -68% of total income after absorbing 100% of all R&D expenses (as actually spent) in the income statement.

### R&D and operating income after and before such investments by half- and full-year period

(SEK 000s)

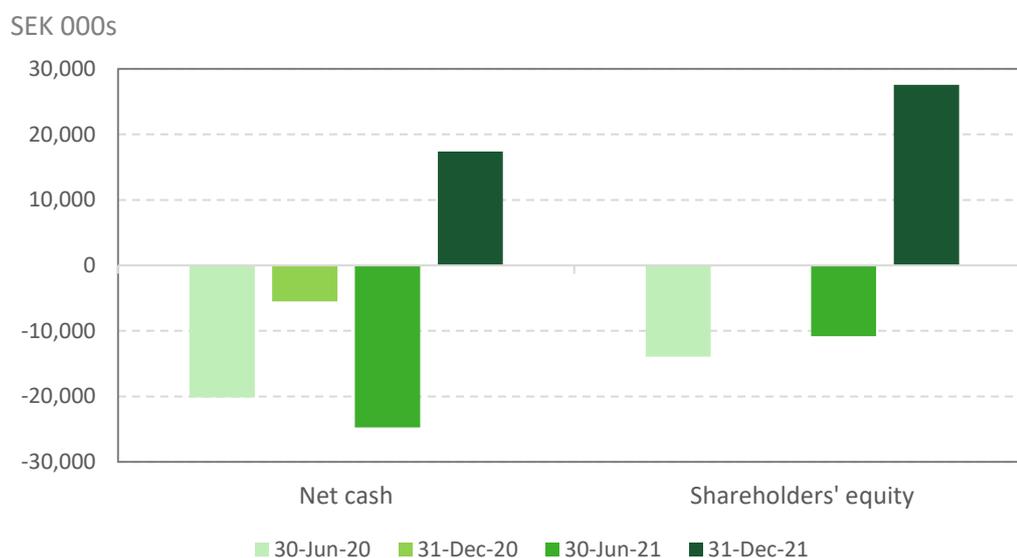


SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Total income	11,922	13,180	17,435	14,903	25,102	32,338
R&D expenses	17,305	16,928	16,668	17,471	34,233	34,139
<i>R&amp;D/Total income</i>	145%	128%	96%	117%	136%	106%
Operating income	-18,912	-15,151	-9,671	-12,258	-34,063	-21,929
<i>Share of Total income</i>	-159%	-115%	-55%	-82%	-136%	-68%
Operating income before R&D	-1,607	1,777	6,997	5,213	170	12,210
<i>Share of Total income</i>	-13%	13%	40%	35%	1%	38%

## Balance sheet

**At the end of 2021**, net cash amounted to SEK 17.4 million. Following the Set-Off Issue in the autumn of 2021, financial debt has been eliminated. The credit line of SEK 50 million remains wholly undrawn, leaving the Company with access to net liquidity to the tune of SEK 67.4 million or circa USD 7.4 million.

### Net current assets, gross cash and shareholders' equity by the end of half-year period



SEK 000s	30-Jun-20	31-Dec-20	30-Jun-21	31-Dec-21
Net current assets	16,959	8,163	15,763	27,556
Gross cash	10,768	2,607	1,831	17,409
Net cash	-20,147	-5,506	-24,746	17,409
Shareholders' equity	-13,956	50	-10,814	27,555
o/w fixed assets	0	0	0	0
o/w intangible assets	0	0	0	0

**Shareholders' equity** amounted SEK 27.6 million at the end of December 2021, up from -SEK 10.8 million at the end of June 2021 and SEK 0.05 million at the end of December 2020. It should be pointed out that the balance sheet contains no intangible assets, neither in the form of patents (more than twenty have been granted), nor in the form of capitalised R&D expenses. Since the beginning of 2017, the Company has spent SEK 140 million on research and development and reported net sales in excess of SEK 60 million.

## Operations

**We continue to adapt to the new 'modus operandi'** evoked by the new corona virus. In response to the gradual re-opening of society, additional investments have been made in marketing and sales. Customer engagements have in many cases been expanded or at the very least re-activated. Our product portfolio has been enriched with the addition of a collection of AI-inspired modules to facilitate modelling of buildings and optimisation of networks, catering to a whole suite of key performance indicators (KPIs). Our ability to model advanced antenna systems and provide high-quality training programmes has been enhanced. Since the lifting of restrictions in the middle of July, we are now in a position to re-invite our employees and contractors back to the office in the UK – though within the capacity limits imposed by authorities. On the product development front, we continue to place special emphasis on indoor and HetNet (Heterogeneous Network) design. Particular efforts are devoted to excelling in some of the most demanding of applications of true 5G.

# Perspectives 2022

While 5G technology has been deployed on a significant scale since 2019, it has yet to demonstrate its full capabilities in transforming the virtues of wireless networking. Nowhere is this thesis more obvious than in the field of Private Wireless (also known as ‘Enterprise Cellular’, ‘Local 5G’ in Japan or ‘CBRS’ in the USA). This segment – closely associated with industrial applications and machine-to-machine communication – is bound to attract considerably more attention in 2022 and beyond.

Already representing at least 80% of originating or terminating traffic in the cellular space, the indoor domain is bound to gain further prominence in the 5G era. As flagged by Ericsson in one of its most recent financial reports, there is a growing consensus that wireless, fuelled by a need to enable inter alia process automation, public safety and remote surveillance, will become the preferred means of establishing and maintaining real-time connectivity amongst enterprises. This opens enormous business opportunities for existing and prospective providers of products and services.

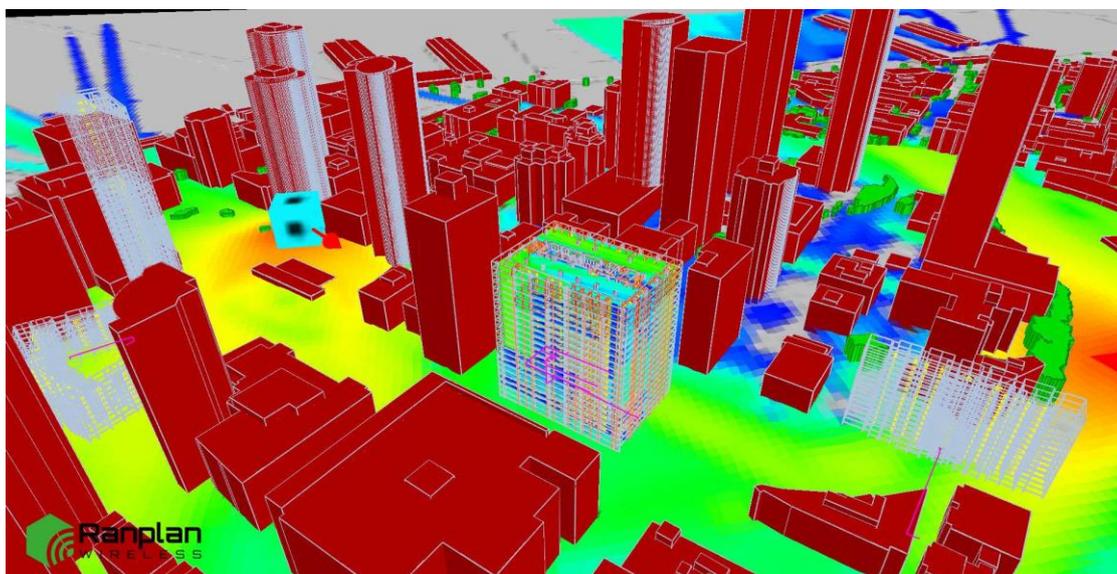
## Tailor-made design enters centre stage...

What makes Private Wireless so special is the tailor-made design that it necessitates. This feature sets it markedly apart from the past when uniform coverage ruled the game. The combination of impeccable reliability, superb security and ultra-low latency will elevate the importance of precise radio network design, before and after initial deployment - simply adding more antennas on an ad hoc or trial-and-error basis will not do. Resilience, robustness and redundancy will be at the heart of critical communications.

## ...shifting emphasis to in-building and dense HetNets

The rise of Private Wireless shifts the emphasis to in-building and dense Heterogeneous Networks (HetNet). It is the local nature of Private Wireless, on account of a variety of KPIs (Key Performance Indicators), on either side of the walls, floors and ceilings of buildings that matters the most. In the age of shared spectral resources, it is imperative that negative interference between the public and the private networks be controlled to a minimum.

## Ranplan Professional HetNet 3D Modelling



To succeed, the mindset of network planners will fundamentally change. The days of uniform coverage will give way to the delivery of networks and services tailor-made to the specific needs of each customer on a case-by-case basis.

### **...and attracting a host of entirely new service providers**

Intimate collaboration between traditional providers of cellular services (Mobile Network Operators) and new aspirants from the web-scale universe, seeking to cement their relationships with enterprises as they transition from fixed LANs or wireless (cellular) adds fuel to the pace of development and rate of sector growth. As spectrum becomes more freely available, courtesy of a series of initiatives by authorities in various parts of the world, investments look destined to intensify in 2022.

### **...seeking to address a gigantic market in the making**

As articulated by numerous industry insiders, the potential size of the Private Wireless market is highly significant. Nokia, for one, suggests from a detailed analysis, that more than 14 million sites would be required to build private 4G (LTE)/5G networks. This figure is roughly twice (2x) the number of 4G (base station) sites currently in operation on planet earth. Whilst this comparison should be construed as 'like-for-like', the cost for a small cell is a fraction of that of a macro one. However, it still serves to illustrate Private Wireless Networks as the key driver of 5G investment growth. With enterprises representing a premium segment it naturally adds to its general attractiveness.

### **Beamforming comes of age**

In-building wireless networking for the manufacturing sector is undoubtedly the arena where some of the most meaningful and straightforward use cases for beamforming can be found. On the 'semi-stationary' factory floor or inside the warehouse outlets, networks can be relatively easily 'instructed' – through clever and well-proven algorithms – to track the rather predictable movements of robots or automatic guided vehicles. In this space, characterised by extraordinary latency, redundancy and velocity requirements, the benefits of millimetre-wave technology are most transparently clear. From a telecom equipment supplier perspective, the advent of beamforming presents them with an additional point of differentiation. In 2022, detailed modelling of such 'state-set' radiation patterns is likely to become meaningful.

### **Precise vs rough network design**

The sheer diversity of use cases serves to emphasize the variety of needs in terms of design practices. For the plethora of industrial applications, epitomized by exacting requirements with respect to accuracy, capacity, latency, reliability, security and versatility (adaptivity to change), utmost precision cannot be compromised. Without assurances on the most critical of parameters, enterprises will hardly consider moving onto 5G-powered day-to-day operations. At the other extreme of the spectrum, networks revolving around IoT (reading off sensors) will do perfectly well with rough estimates to ensure that coverage criteria are fully met. To these customers, speed and simplicity of design, deployment, and optimization will take precedence. In 2022, we expect private wireless segments will begin to diverge.

### **Openness enables automation and spurs innovation**

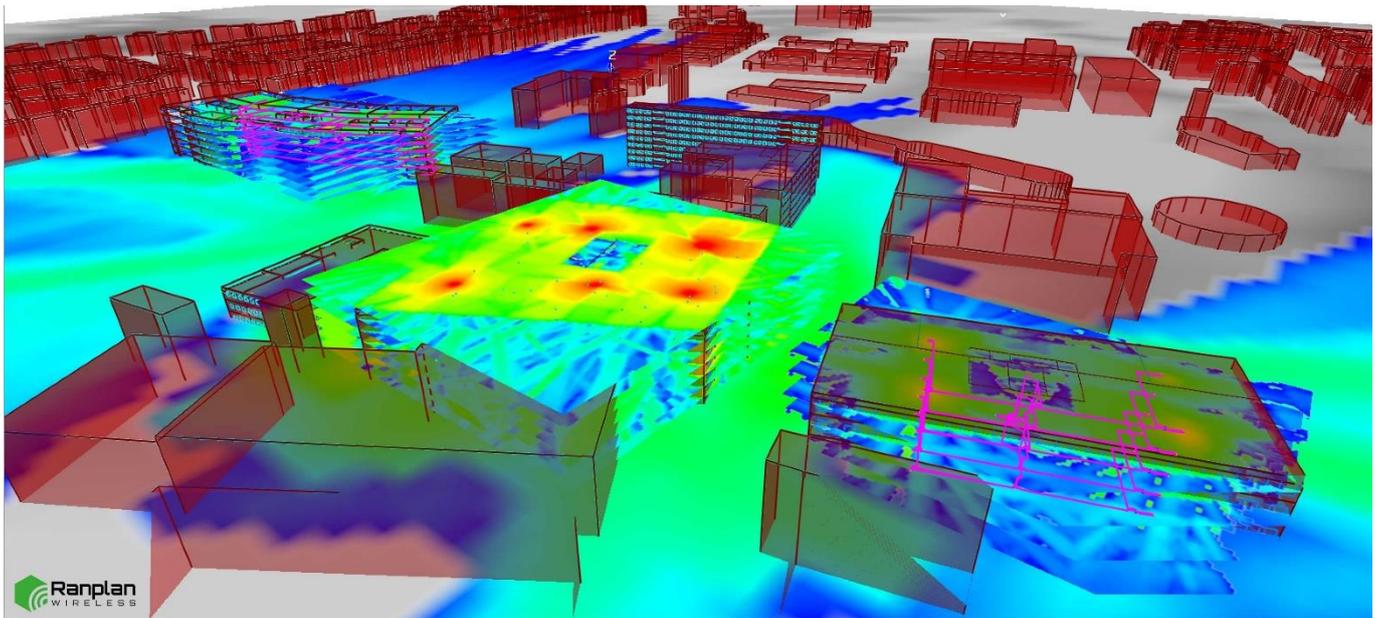
As heralded by the O-RAN community, efforts to standardize interfaces at both the networking and the application layers will proceed. Progress in this respect will pave the way for integration of 'best-of-breed' components within cloud-native architectures, designed from scratch to smoothly interwork with a host of third-party systems. In 2022, much attention will be placed on further development and refinement of the RAN Intelligent Controller (RIC) promising non- and near-real time adaptations of networks to changes in the external requirement, applications, services and end-user priorities. Inspired by the AI/ML

bandwagon, intelligence will be incorporated into the next generation of networks on a scale that makes them increasingly adaptive to changes in the external environment (akin to how nature constantly adapts itself to perfection). By the end of 2022, we would expect more than a handful such platforms in use.

### **Validation pre- and post-installation**

Doing away with expensive and tedious drive- and walk-tests will remain at the top of service providers', design houses' and system integrators' wish-list. Advances on this pivotal front are likely to commence in earnest in 2022, supporting the vision that predictive analysis through the expert use of software can act as a fully viable substitute.

### **Ranplan Professional® HetNet 3D simulation of the propagation characteristics of radio waves**



Increasingly, to many Operators of wireless networks, the case for validating design proposals before and indeed also after installation of equipment is too compelling to be ignored: it would significantly improve quality of service, accelerate time-to-market, heighten user satisfaction and slash life-cycle costs on both the CapEx and OpEx fronts. Comprehensive data sets will help customers evaluate the cost and performance of different vendors' equipment, workflow processes and areas in need of improvements.

### **Digital Twin powered by AI/ML and standards like BIM**

The escalating complexity of 5G, propelled by an increasing number of vastly different use cases, the proliferation of network nodes and the mounting threats pose by cyber-attacks – makes automation of manual-intensive tasks absolutely imperative. To cope with these challenges, as recognised by the O-RAN community, a new generation of self-organising (self-healing) networks must be developed with the interlocking of data analytics and simulation tools in mind. To this end, digital representations of the external environment and the network equipment itself must be simplified and standardized using Artificial Intelligence (AI), Machine Learning (ML) and standards such as Building Information Modelling (BIM). We intend to devote much attention to this matter in 2022.

## Digital twins epitomise the virtue of creating/retaining accurate computer replicas of the real world



### Learning to live with COVID-19: coping with pandemics

Whilst the jury is still out on when, if ever, the COVID-19 pandemic will be contained (by mutating into milder variants and/or through natural and vaccinated mass-immunity), one thing can be said for certain: the fabric of society, its supply chains of goods and services, its healthcare systems, its physical infrastructure, its electric grid and, not least, its information and communications networks must be made resilient and robust enough to cope with exogenous shocks of this nature. Networks, especially on the wireless side, must be able to adapt to altered circumstances. They must:

- instantly respond to jumps in traffic loads.
- 'slice' resources in real-time on a per-use basis.
- 'self-repair' should serious problems arise.
- ensure that people stay personally and professionally connected in times of extraordinary stress.

Social isolation comes with a heavy cost. Never have so many people had to dramatically adapt to a new mode of life so quickly. Much of our adaptiveness has come from having the ability to utilise wireless connectivity which is why it's so important we continue to perfect this heavily relied upon service.

- By staying connected, people are likely to stay educated, informed, motivated and safe.
- Critical operations call for automation through machine-to-machine communication.
- Ubiquity requires radio access, be it cellular 4G/5G or Wi-Fi, or any combination thereof.

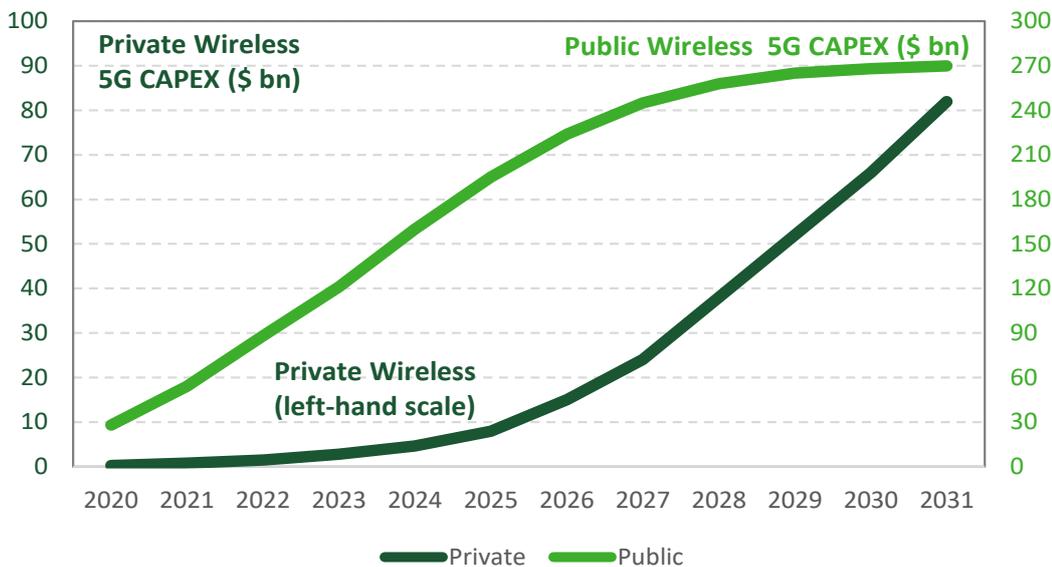
# Market potential

This section should not be construed as guidance. It is contained in this report to illustrate, by means of a scenario description, what the 5G investment cycle in general and that of Private Wireless in particular may have in store.

Although the global pandemic has led to postponements of important infrastructure projects, the 5G investment cycle shows no signs of entering into a phase of deceleration. On the contrary, as articulated by leading telecom equipment makers, the demand trajectories appear genuinely robust. Nowhere is the frenzy more clearly discernible than in the field of Private Wireless – a segment increasingly closely associated with the current and next (6G) generation of cellular technologies, enabling massive manufacturing efficiency gains and hence promising to make society at large far less vulnerable to supply side shocks and resultant inflationary pressure in the wake of recent changes to central bank policies.

Still in a phase of embryonic development, the private wireless market seems destined to balloon in the next ten years. Provided that convincing use cases can be demonstrated – critically dependent on careful and meticulous planning of the design and subsequent continual optimisation of networks - this segment alone could approach the USD 100bn total 5G capex mark by the turn of the next decade. At that juncture, it could represent around a third of corresponding capital expenditures associated with public networks. Parity, through simple extrapolation, could be reached within the space of the following ten-plus years. It is noteworthy that one of the central attractions of Private Wireless is the premium characteristics that it represents. Solid returns on investments can be attained by meeting the needs of commercial clients.

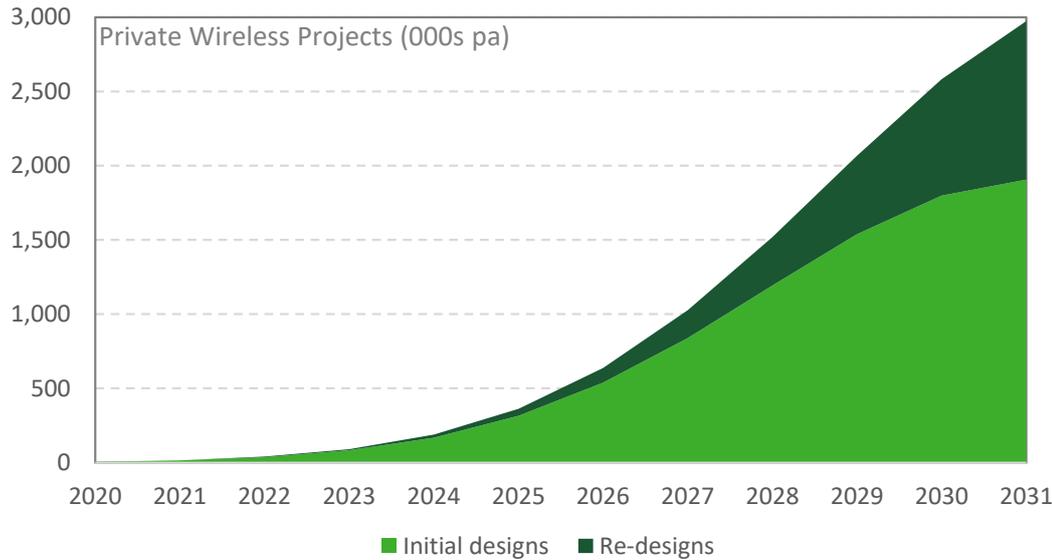
## Total 5G capital expenditures (CAPEX) associated with Public and Private Wireless Networks



Source: Ranplan Wireless, third-party research reports and company/industry projections/studies.

From the horizon of Ranplan Wireless and its peers, the Private Wireless bandwagon presents a source of significant increments to demand. Sophisticated software tools will be required to satisfy the exacting requirements – tied to specific key performance indicators (coverage, capacity, throughout, latency, redundancy, reliability, versatility, security) – that essentially all enterprise customers will rely upon. The number of projects, assuming that the cumulative number of enterprise sites will reach around 15 million by 2033, is likely to be monumental. As illustrated below, we foresee in a main scenario a cumulative total – encompassing both initial and re-designs – to surpass 10 million by 2030 with the annual numbers to be carried out scaling from around 100k in 2023 via c. 600k in 2026 to approximately 2 million in 2029.

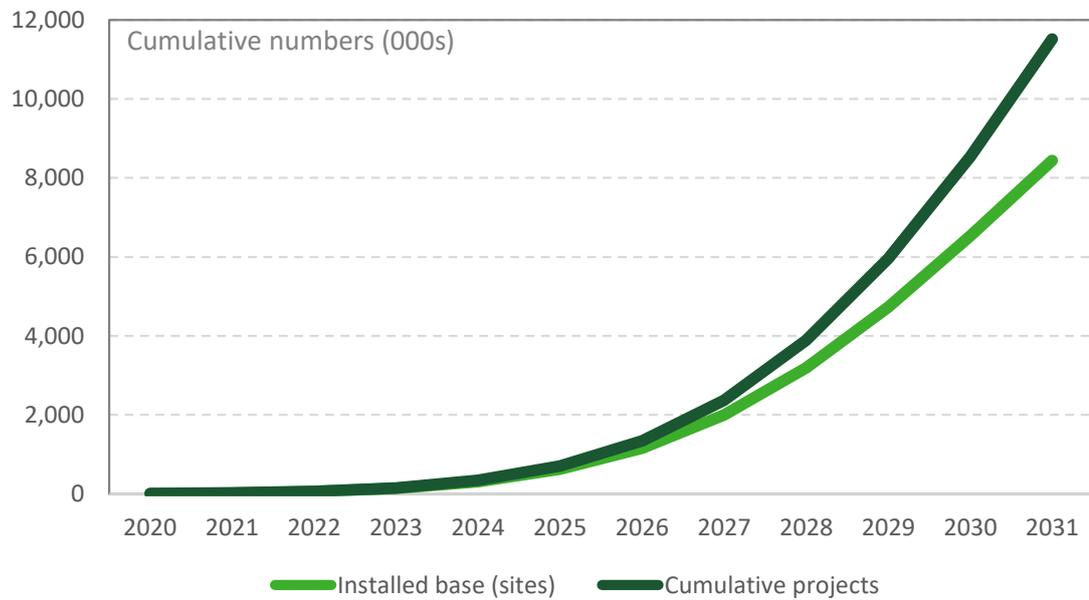
**Number of Private Wireless Projects by initial and subsequent re-design of networks**



Source: Ranplan Wireless, third-party research reports and company/industry projections/studies.

In making these projections, we explicitly assume – based on practical experience in the field – that the vast majority of initial designs will preferably be re-designed, in effect be re-optimised in response to changes in the external environment, traffic patterns, use cases and not least the underlying technology (as for example more advanced beamforming antennas become more affordable and available). This presumption entails by extension that over the course of time, the installed base of private wireless sites (here defined as a central unit in the terminology of 5G) will be the primary determinant of lasting demand.

**Cumulative numbers of private wireless projects and installed base of corresponding sites**



Source: Ranplan Wireless, third-party research reports and company/industry projections/studies.

# Financial statements

In this section, data related to the consolidated Ranplan Group AB and its Parent are presented. Please note that the parent company of the Group, Ranplan Group AB was registered on 14 March 2018. After shifting to a half year reporting cycle in September 2019, the Company does not break down the results by quarter (consecutive 3 months periods). It is the Board of Directors' view that the Group's financial performance is best judged on a rolling twelve-month rather than an isolated interim reporting basis.

For the sake of clarity, the term Total Income, comprising Net sales (from commercial products and services), other income (from research projects) and other operating income (from R&D tax credits, is used to reflect all sources of income (and by extension receipt or expected future receipt of cash). Gross profit is measured as the absolute difference between Total Income and Cost of sales with the gross margin calculated as the ratio between gross profit and Total Income. Operating expenses ("OPEX") consists of expenditures associated with *Research and Development* (abbreviated as "*R&D*"), *Sales and Marketing* ("*S&M*" or "*Sales costs*") and *General and Administration* ("*G&A*" or "*Administration costs*").

## Comments on the H2 2021 results

### Income Statement

In the second half of 2021, total income amounted to SEK 14.9 million, 13% higher than in corresponding period of 2020 but 15% lower than in the first six months of 2021. The year-on-year increase is mainly attributable to net sales (commercial products and services) which, against an unusually light base of comparison, rose by 39% (year-on-year) to SEK 7.0 million. Other income (drawn from research projects) at SEK 3.3 million contracted noticeably compared with the immediately preceding (-19%) and year-ago (-29%) half year periods. Its decline reflects in part a strategic decision to re-focus resources increasingly on commercial sales activities. Barring any unforeseen events, a noticeable decline is envisaged in 2022 (though, if so, with a commensurate reduction of associated activities, chiefly those related to research and development). Other operating income (deriving from R&D tax credits) reached SEK 4.6 million, an increase of 32% year-on-year and a slight reduction (7%) the adjusted level of H1 2021 (which did explicitly include a one-time catch-up effect to the tune of SEK 1.3 million (as flagged in the H1 '21 report).

Gross profits, defined as the difference between Total Income and costs of sales, of SEK 14.8 million held developed largely in unison with the changes in Total Income. The resultant gross margin (gross profit divided by Total Income) of 99% illustrates the operating leverage from off-the-shelf software deliveries. (Had cost of sales been attributed solely to net sales, then the gross margin would have reached 98.5%).

On an adjusted, basis, research and development expenditures were rather stable at SEK 17.5 million, up by 3% compared with the level in the second half of 2020. As in the past, all R&D is expensed as it occurs (no capitalisation takes place, making the balance sheet free of any intangible assets, goodwill or others).

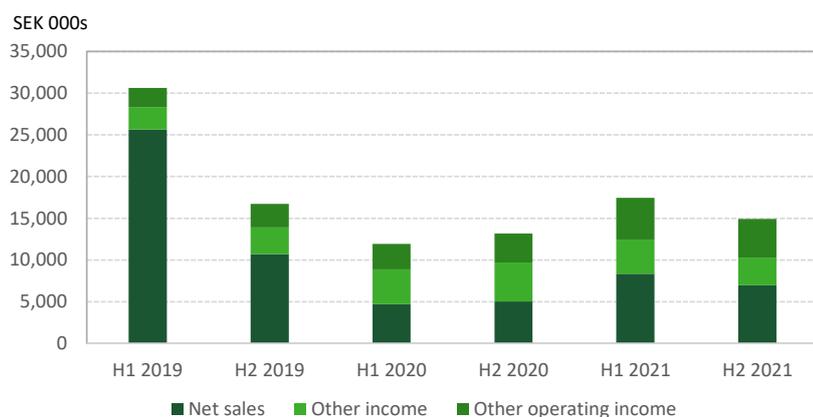
Expenses related to sales and marketing ("*Sales costs*") at SEK 4.9 million, a rise of 33% year-on-year, remains subdued. A further increase can be expected in tandem with a progressive re-opening of society. Costs associated with central functions and administration fell 42% year-on-year to SEK 4.2 million, in part due to a reversal of a liability in the amount of SEK 0.5 million. Other operating expenses, associated with VAT charges and gains and losses on foreign exchange movement, continue to exhibit fluctuations. In this context, it should be noted that the reporting currency depreciated markedly in the end of 2021.

Losses from operations at SEK 12.3 million were higher than in the first six months of 2021, reflecting the impact of lower total income (mainly due to net sales and other income). For the third consecutive (half-year) reporting period, losses fell markedly on a year-on-year basis, see chart below. The noticeable improvements reflect the dual benefits of higher net sales and containment of operating costs. Net interest income and expenses, influenced by drawdowns of funds from the credit line that was initiated in July 2019, and expanded in March 2020 amounted to a negative SEK 1.1 million. Since the completion of the Extraordinary General Meeting on 18 October 2021 (at which the latest Set-Off Issue was approved), the Company has been operating without incurring any interest costs on external loans.

With no provision for taxes, net income amounted to -SEK 13.3 million, representing a decline from a reported -SEK 10.6 million in H1 2021, but an increase (improvement) from -SEK 16.7 million in H2 2020.

N.B. Other Operating Income represents the tax credit that is estimated to be paid by the UK government to support Ranplan Wireless' R&D activities. These estimates are subject to judgements according to guidelines with respect to inter alia the advancement of science and technology, the degree of uncertainty and ease of deducibility by a competent professional. In the first half of 2021, no cash related to such grants were received, but close to SEK 8.0 million were collected in the second half of the year. At the end of 2021, Ranplan carried tax credit receivables valued at around SEK 8.7 million – attributable to research and development activities deemed to be eligible in calendar 2021 - on its balance sheet.

### Total income by half-year period



*On an adjusted basis, the financial performance in the two halves of 2021 were broadly on a par”*

### Operating and net income by half-year period



## Balance Sheet

At the end of December 2021, shareholders' equity amounted to SEK 27.6 million compared with a -SEK 10.8 million and SEK 0.05 million at the end of June 2021 and December 2020, respectively. The reported figure, total assets in excess of liabilities, should be evaluated on the basis that no value is attached to either the patent portfolio or investments in research and development. Since the beginning of 2017, the Company has invested SEK 140.7 million in research and development, equivalent to around USD 15 million at current exchange rates. It is the Board of Directors' belief that investments of this nature will contribute meaningfully to the Company's inherent ability to generate free cash flow in the coming years.

### R&D Expenditures per annum and cumulatively since the start of 2017

SEK millions	2017	2018	2019	2020	2021
R&D expenses (per annum)	18.3	23.6	30.5	34.2	34.1
Cumulative from 2017	18.3	41.9	72.4	106.6	140.7

At the end of 2021, net cash amounted to a SEK 17.4 million, an increase from -SEK 24.7 million and -SEK 5.5 million six and twelve months earlier respectively. Net current assets, including gross cash (influenced by the cash infusion from the directed issue), amounted to SEK 27.6 million at the end of December 2021, a noticeable increase from SEK 15.8 million at the end of June 2021 more than a tripling from SEK 8.2 million at the end of December 2020. As a consequence of the share issues, debt has vanished. At the end of June 2021, no loans were outstanding in comparison with SEK 26.6 million at the end of June 2021 and SEK 8.1 million at the end of December 2020. The credit line (ceiling of SEK 50 million) is undrawn.

The balance sheet remains completely free of fixed assets, even though, as documented in the income statement, ambitious investments in research and development continues to be made. As a result, no charges associated with amortisation and depreciation are expected to be incurred in the near-term.

### Balance sheet summary (by end of period)

SEK 000s	30-Jun-20	31-Dec-20	30-Jun-21	31-Dec-21
Net current assets	16,959	8,163	15,763	27,556
Gross cash	10,768	2,607	1,831	17,409
Net cash	-20,147	-5,506	-24,746	17,409
Shareholders' equity	-13,956	50	-10,814	27,555
o/w fixed assets	0	0	0	0
o/w intangible assets	0	0	0	0

Cash flow from operations amounted to -SEK 12.5 million (-SEK 15.3 million in H2 2020) before and -SEK 8.7 million (-SEK 14.7 million in H2 2020) after movements of net working capital. No investments, either of tangible or intangible nature, were made in the period. In 2021, total current receivables fell by SEK 0.6 million, while total current liabilities decreased by SEK 5.2 million. As a corollary, net receivables, here defined as total current receivables less total current liabilities, expanded by around SEK 4.6 million.

### Cash flow summary (by half and full year period)

SEK 000s	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
Cash flow before working capital	-19,578	-15,298	-9,671	-12,491	-34,876	-22,162
Working capital	9,087	636	-8,376	3,786	9,723	-4,590
Cash flow after working capital	-10,491	-14,662	-18,048	-8,704	-25,153	-26,752
Investments	0	0	0	0	0	0

### Personnel

The number of full-time employees, excluding contractors, in the Group was 61 at the end of December 2021, almost the same as 62 at the end of December 2020. With inclusion of contractors, the headcount broadly corresponding to full-time equivalents stood at 71 at the end of 2021 (81 at the end of 2020).

### Risk factors

The Ranplan Group is exposed to several global and Group specific risks that can impact operations and the financial performance, as well as the financial position of the Group. The foreseeable risks are identified and monitored centrally on the basis of established policies. Risk management in the Group aims at positioning the Group to be able to correctly respond to events that may pose dangers and threats to its well-being. Below is a non-exhaustive list of risks, without regard to their level of significance, which the Group consider to be material.

Further details can be found in the IPO prospectus, available on the Group's website.

- Financing (through a variety of channels)
- Key personnel (experts and managers)
- Product development, quality and perception
- Competition (from existing and new contenders)
- Customers (delays, requirements, acceptance criteria etc)
- Intellectual property and business secrets
- The market price of the company's shares

### Implications of COVID-19

Although the Omicron strain appears to reduce the incidence of severe illness and hospitalisations associated with the new corona virus, we will continue to carefully monitor the situation in all markets in which we operate. Caution will be exercised when it comes to travel and face-to-face meetings. We will abide by the recommendations, restrictions and rules set by local authorities. In the event of a resurgence in infections, we shall be prepared to return to a complete 'lock-down'. Experience garnered in 2020-21 serves to demonstrate that our operations can handle such a change in the 'modus operandi' without any significantly debilitating effects. These remarks notwithstanding, there is no doubt, that COVID-19 has had and to a lesser extent still has a negative effect on the company's commercial activities.

# Group consolidated accounts

In this section, the financial statements for the Group on a consolidated basis are presented. These accounts encompass the Parent Company as well as all its 100% owned subsidiaries (no minorities).

## Group income statement by half- and full-year period

GROUP INCOME STATEMENT (KSEK)	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
<b>Operating income</b>						
Net sales (commercial products)	4,686	5,005	8,345	6,970	9,691	15,315
Other income (research)	4,192	4,674	4,097	3,314	8,866	7,411
Other operating income (tax credits)	3,044	3,501	4,993	4,619	6,545	9,612
<b>Total income</b>	<b>11,922</b>	<b>13,180</b>	<b>17,435</b>	<b>14,903</b>	<b>25,102</b>	<b>32,338</b>
Cost of sales	-333	45	-113	-102	-288	-215
<b>Gross profit</b>	<b>11,589</b>	<b>13,225</b>	<b>17,322</b>	<b>14,801</b>	<b>24,814</b>	<b>32,123</b>
R&D costs	-17,305	-16,928	-16,668	-17,471	-34,233	-34,139
Sales costs	-6,923	-3,723	-4,725	-4,934	-10,646	-9,659
Administration costs	-5,942	-7,280	-5,432	-4,195	-13,222	-9,627
Other operating expenses	-331	-445	-168	-459	-776	-627
<b>Operating income</b>	<b>-18,912</b>	<b>-15,151</b>	<b>-9,671</b>	<b>-12,258</b>	<b>-34,063</b>	<b>-21,929</b>
<b>Financial items</b>						
Financial income and expenses	-1,634	-1,204	-963	-1,030	-2,838	-1,993
<b>Total financial items</b>	<b>-1,634</b>	<b>-1,204</b>	<b>-963</b>	<b>-1,030</b>	<b>-2,838</b>	<b>-1,993</b>
<b>Income after financial items</b>	<b>-20,546</b>	<b>-16,355</b>	<b>-10,634</b>	<b>-13,288</b>	<b>-36,901</b>	<b>-23,922</b>
Tax on income	0	0	0	0	0	0
<b>Net income for the period</b>	<b>-20,546</b>	<b>-16,355</b>	<b>-10,634</b>	<b>-13,288</b>	<b>-36,902</b>	<b>-23,922</b>

## Group balance sheet by end of half-year period

<b>GROUP BALANCE SHEET (KSEK)</b>	<b>30 JUN 2020</b>	<b>31 DEC 2020</b>	<b>30 JUN 2021</b>	<b>31 DEC 2021</b>
<b>Assets</b>				
<b>Fixed assets</b>				
Tangible fixed assets				
Equipment, tools, fixtures and fittings	0	0	0	0
<b>Total fixed assets</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Current assets</b>				
Accounts receivable - trade	9,227	7,194	5,150	4,614
Other current receivables	7,782	5,471	10,600	8,814
Prepaid expenses and accrued income	9,064	6,201	7,441	4,821
<b>Total current receivables</b>	<b>26,073</b>	<b>18,866</b>	<b>23,191</b>	<b>18,248</b>
Cash and bank balances				
Cash and bank	10,768	2,607	1,831	17,409
<b>Total current assets</b>	<b>36,840</b>	<b>21,473</b>	<b>25,021</b>	<b>35,658</b>
<b>Total assets</b>	<b>36,840</b>	<b>21,473</b>	<b>25,021</b>	<b>35,658</b>
<b>Equity and liabilities</b>				
<b>Equity</b>				
Share capital	805	966	966	1,218
Share premium reserve	50,656	82,353	82,353	133,528
<b>Other capital, translation effects, period's result</b>				
Other capital, translation effects, period's result	-65,057	-83,269	-94,133	-107,191
<b>Equity attributable to owners</b>	<b>-13,956</b>	<b>50</b>	<b>-10,814</b>	<b>27,555</b>
<b>Total equity</b>	<b>-13,956</b>	<b>50</b>	<b>-10,814</b>	<b>27,555</b>
<b>Non current liabilities</b>				
<b>Long term loan</b>	<b>30,915</b>	<b>8,113</b>	<b>26,576</b>	<b>0</b>
<b>Current liabilities</b>				
Accounts payable - trade	2,019	1,714	1,495	1,185
Other current liabilities	8,863	1,834	2,451	2,070
Accrued expenses and deferred income	8,999	9,762	5,312	4,848
<b>Total current liabilities</b>	<b>19,881</b>	<b>13,310</b>	<b>9,258</b>	<b>8,102</b>
<b>Total equity and liabilities</b>	<b>36,840</b>	<b>21,473</b>	<b>25,021</b>	<b>35,658</b>

## Group cash flow statement by half- and full-year period

GROUP CASH FLOW STATEMENT (KSEK)	H1 2020	H2 2020	H1 2021	H2 2021	FY 2020	FY 2021
<b>Operating activities</b>						
Operating income	-18,912	-15,151	-9,671	-12,258	-34,064	-21,929
Issue costs	0	0	0	-233	0	-233
Adjustment for depreciation	54	0	0	0	54	0
Paid interest	-720	-147	0	0	-867	0
<b>Cash flow before working capital movements</b>	<b>-19,578</b>	<b>-15,298</b>	<b>-9,671</b>	<b>-12,491</b>	<b>-34,877</b>	<b>-22,162</b>
<b>Change in net operating assets</b>						
Trade receivables	4,441	2,033	2,044	536	6,474	2,580
Current receivables, accrued income	4,909	5,174	-6,369	4,406	10,083	-1,963
Trade payables	-1,437	-305	-219	-310	-1,742	-529
Current liabilities, deferred income	1,174	-6,266	-3,833	-846	-5,092	-4,679
<b>Cash flow from operating activities</b>	<b>-10,491</b>	<b>-14,662</b>	<b>-18,048</b>	<b>-8,704</b>	<b>-25,154</b>	<b>-26,752</b>
<b>Investing activities</b>						
Acquisition of fixed assets	0	0	0	0	0	0
Acquisition of subsidiaries	0	0	0	0	0	0
<b>Cash flow from investing activities</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Financing activities</b>						
Proceeds from loan	10,000	8,000	17,500	3,700	18,000	21,200
Repayment of loans	0	0	0	-7,564	0	-7,564
Proceeds from issues of shares and warrants	2	58	38	27,880	60	27,918
<b>Cash flow from financing activities</b>	<b>10,002</b>	<b>8,058</b>	<b>17,538</b>	<b>24,016</b>	<b>18,060</b>	<b>41,554</b>
<b>Cash flow of the period</b>	<b>-489</b>	<b>-6,604</b>	<b>-510</b>	<b>15,312</b>	<b>-7,094</b>	<b>14,802</b>
Cash at the beginning of the period	10,848	10,768	2,607	1,831	10,848	2,607
Exchange rate differences, other effects	409	-1,557	-267	267	-1,147	0
<b>Cash and equivalents at period end</b>	<b>10,768</b>	<b>2,607</b>	<b>1,831</b>	<b>17,409</b>	<b>2,607</b>	<b>17,409</b>

## Group changes in equity by full year period (calendar 2021)

GROUP CHANGES IN EQUITY KSEK	SHARE CAPITAL	OTHER PAID-IN CAPITAL	RETAINED EARNINGS	TOTAL EQUITY
<b>Starting balance 2020-12-31</b>	966	82,353	-83,269	50
Net income			-23,922	-23,922
Issue of equity	252	51,408		51,660
Issue costs		-233		-233
<b>Ending balance 2021-12-31</b>	<b>1,218</b>	<b>133,528</b>	<b>-107,191</b>	<b>27,555</b>

## Notes to the consolidated financial information

### Summary of significant accounting policies.

This interim report has been prepared in accordance with the Annual Accounts Act and the Swedish Accounting Standards Board's general regulations BFAR 2012:1 Annual Report and Consolidated Financial Statements (K3).

### Important estimates and judgments regarding the accounting

Estimates and judgments are evaluated on an ongoing basis and are based on historical experience and other factors, including expectations regarding future events which are seen to be reasonable under the circumstances in place.

The Company's management deems that there is no significant information or judgment in the accounts regarding future developments or other important sources of uncertainty in the estimates undertaken at balance sheet date which would imply a significant risk of a major adjustment in the reported values of the assets and liabilities during the foreseeable future.

### Share Data

At end of period	31 Dec 2020	30 Jun 2021	30 Dec 2021
Number of shares (000s)	24,138	24,138	30,438
Number of 2022 warrants (000s)*	815	815	815
Number of 2023 warrants (000s)*	985	985	985
Number of 2024 warrants (000s)*	0	965	965
Share price at end of period (SEK)	7.7	6.8	8.0
Full time employees	62	64	61

\*Strike price at SEK 20.60, exercisable in Sep-Dec 2022, Sep-Dec 2023 and Sep-Dec 2024

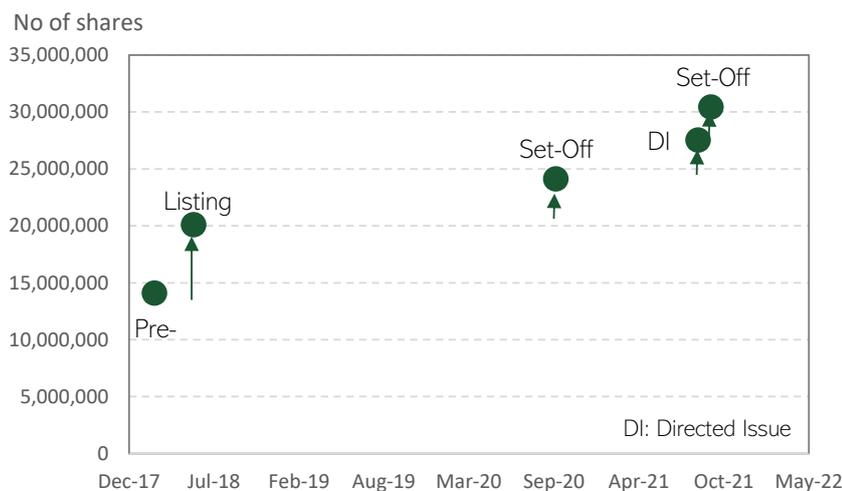
### Development of the number of shares outstanding

Number of Shares	Event	New Shares	Total Number	Price/share	Value
Mar-18	Pre-listing	NA	14,098,394	NA	NA
Jun-18	Listing	6,017,418	20,115,812	SEK 10.30	61,979,405
Oct-20	Set-Off Issue	4,022,430	24,138,242	SEK 7.92	31,857,646
Sep-21	Directed Issue	3,400,000	27,538,242	SEK 8.20	27,880,000
Oct-21	Set-Off Issue	2,900,000	30,438,242	SEK 8.20	23,780,000

### Parent Company Financial Statements

Since the listing of Ranplan Group AB on NASDAQ First North on 28 June 2018 (at a subscription price of SEK 10.30), the number of outstanding shares have increased by approximately 50% from 20 115 812 via 24 138 242 through a Set-Off issue (at a conversion price of SEK 7.92) resulting in 4 022 430 new shares carried out in October 2020 to 30 438 242 through a combination of a Directed Issue (SEK 8.20) translating into 3 400 000 new shares and a Set-Off Issue (SEK 8.20) resulting in 2 900 000 new shares.

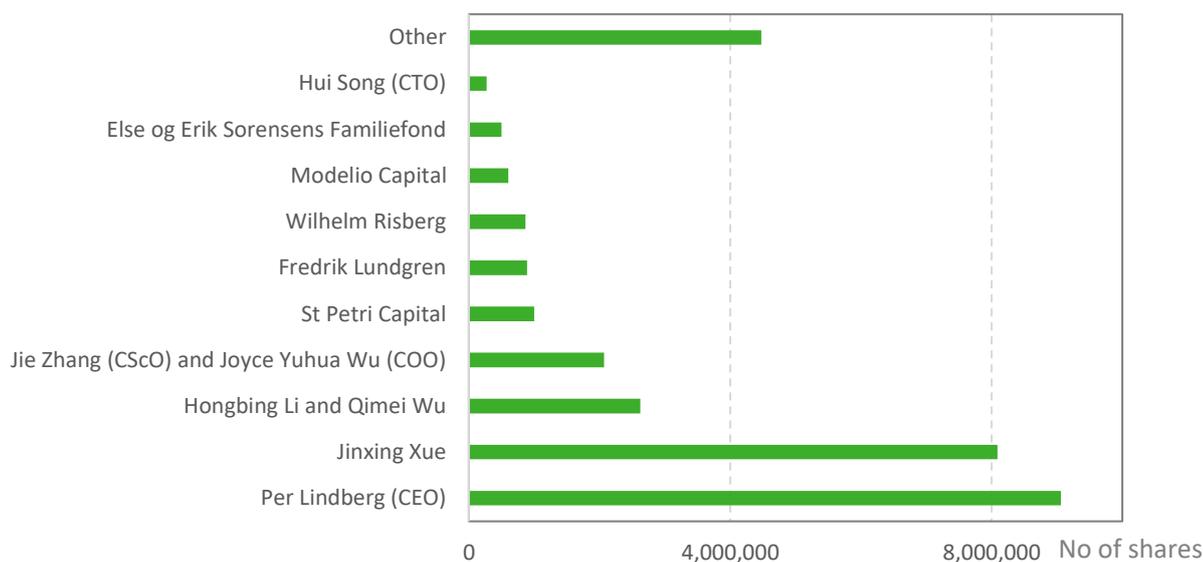
### Total number of shares outstanding



### Shareholder Structure

Shareholders as of 31 Dec 2021*	No of shares	Ownership
Per Lindberg (CEO)	9,059,238	29.8%
Jinxing Xue	8,084,887	26.6%
Hongbing Li and Qimei Wu	2,624,070	8.6%
Jie Zhang (CScO) and Joyce Yuhua Wu (COO)	2,067,996	6.8%
St Petri Capital	1,000,000	3.3%
Fredrik Lundgren	890,205	2.9%
Wilhelm Risberg	865,403	2.8%
Modelio Capital	600,000	2.0%
Else og Erik Sorensens Familiefond	500,000	1.6%
Hui Song (CTO)	271,449	0.9%
Other	4,474,994	14.7%
<b>Total</b>	<b>30,438,242</b>	<b>100.00%</b>

\*and 2 765 200 warrants (strike SEK 20.60) outstanding



## Comments on the Parent Company's financial statements

### Parent Company Financial Statements

The accounts set out below relate to the Group Parent Company Ranplan Group AB which was registered in March 2018 and which is the sole owner of all Ranplan operating companies, see organisational chart.

### Income Statement

The administration expenses relate to members of the Board, the Chief Executive Officer as well as other costs required to operate the NASDAQ First North Company in accordance with applicable rules. R&D costs concern management of such activities on a global basis.

### Balance Sheet

The shares in subsidiaries represent the cost of acquiring the activity of Ranplan Holdings Ltd. Group receivables represent advances made to Group subsidiaries to fund their operations.

### Changes in Equity

The movements in equity are caused by net income, as well as net of infusion of cash where applicable.

### Parent Company income statement by half- and full-year period

PARENT COMPANY INCOME STATEMENT (KSEK)	FY 2020	H1 2021	H2 2021	FY 2021
<b>Operating income</b>				
Net sales	8,752	4,069	3,451	7,520
R&D costs	-1,424	-719	-652	-1,371
Administration costs	-4,738	-2,533	-1,587	-4,120
<b>Operating income</b>	<b>2,590</b>	<b>817</b>	<b>1,211</b>	<b>2,028</b>
Financial income and expense	-2,838	-963	-1,030	-1,992
<b>Income before taxes</b>	<b>-248</b>	<b>-146</b>	<b>182</b>	<b>36</b>
<b>Net income</b>	<b>-248</b>	<b>-146</b>	<b>182</b>	<b>36</b>

## Parent Company balance sheet by end of period

<b>PARENT COMPANY BALANCE SHEET (KSEK)</b>	<b>31 DEC 2020</b>	<b>30 JUN 2021</b>	<b>31 DEC 2021</b>
<b>Assets</b>			
<b>Investments</b>			
Financial assets			
Shares in subsidiaries	3,396	3,396	3,396
<b>Total investments</b>	<b>3,396</b>	<b>3,396</b>	<b>3,396</b>
<b>Current assets</b>			
Receivables from subsidiaries	88,296	107,052	120,132
Other receivables and prepayments	71	140	147
Cash and bank balances	416	246	11,638
<b>Total current assets</b>	<b>88,783</b>	<b>107,438</b>	<b>131,917</b>
<b>Total assets</b>	<b>92,179</b>	<b>110,834</b>	<b>135,313</b>
<b>Equity and liabilities</b>			
<b>Restricted equity</b>			
Share capital	966	966	1,218
<b>Non-restricted equity</b>			
Share premium reserve	82,353	82,353	133,528
Retained earnings	-3,657	-1,554	-1,700
Net income	2,103	-146	182
<b>Total Non-restricted equity</b>	<b>80,799</b>	<b>80,653</b>	<b>132,010</b>
<b>Total equity</b>	<b>81,765</b>	<b>81,619</b>	<b>133,227</b>
<b>Current liabilities</b>			
Accounts payable - trade	3	3	80
Other payables	752	808	730
Accrued expenses	1,546	1,828	1,276
<b>Total current liabilities</b>	<b>2,301</b>	<b>2,639</b>	<b>2,085</b>
Loan	8,113	26,576	0
<b>Total liabilities</b>	<b>10,415</b>	<b>29,215</b>	<b>2,085</b>
<b>Total equity and liabilities</b>	<b>92,719</b>	<b>110,834</b>	<b>135,313</b>

**Parent Company Cash flow statement by half- and full-year period**

<b>PARENT COMPANY CASH FLOW STATEMENT (KSEK)</b>	<b>FY 2020</b>	<b>H1 2021</b>	<b>H2 2021</b>	<b>FY 2021</b>
<b>Operating activities</b>				
Operating income	2,590	817	1,211	2,028
Issue costs			-233	-233
Interest received	0	0	0	0
Interest paid	-867	0	0	0
<b>Cash flow before working capital movements</b>	<b>1,723</b>	<b>817</b>	<b>978</b>	<b>1,795</b>
<b>Change in net operating assets</b>				
Current assets	-20,260	-18,825	-13,087	-31,912
Current liabilities	-656	338	-554	-216
Other liabilities	505	0	0	0
<b>Cash flow after working capital movements</b>	<b>-18,687</b>	<b>-17,670</b>	<b>-12,663</b>	<b>-30,332</b>
<b>Financing activities</b>				
Proceeds from issue of shares and warrants	58	6	27,880	27,886
Proceeds from loan	18,000	17,500	3,700	21,200
Repayments of loan	0	0	-7,564	-7,564
<b>Cash flow from financing activities</b>	<b>18,058</b>	<b>17,506</b>	<b>24,016</b>	<b>41,522</b>
<b>Cash flow of the period</b>	<b>-629</b>	<b>-164</b>	<b>11,354</b>	<b>11,190</b>
Brought forward	1,045	416	246	416
Other effects		-6	38	32
<b>Cash and equivalents at period end</b>	<b>416</b>	<b>246</b>	<b>11,638</b>	<b>11,638</b>

**Parent Company change in equity by full-year (calendar 2021)**

<b>PARENT COMPANY CHANGES IN EQUITY KSEK</b>	<b>SHARE CAPITAL</b>	<b>OTHER PAID-IN CAPITAL</b>	<b>OTHER EQUITY</b>	<b>TOTAL EQUITY CAPITAL</b>
<b>Starting balance 2020-12-31</b>	966	82,353	-1,553	<b>81,765</b>
Net income			36	<b>36</b>
Directed share issue	136	27,744		<b>27,880</b>
Set Off issue + other	116	23,664		<b>23,780</b>
Issue costs		-233		<b>-233</b>
<b>Ending balance 2021-12-31</b>	<b>1,218</b>	<b>133,528</b>	<b>-1,517</b>	<b>133,227</b>

## Abbreviations, Definitions and Terminologies

**Total Income** comprises the sum of

**Net sales** (related to commercial products and services),  
**Other income** (emanating from research projects) and  
**Other operating income** (drawn from R&D tax credits)

**Gross profit** is here defined as the difference between Total income and cost of sales.

**Gross margin** is here defined as the ratio between gross profit and Total Income.

**Other operating income** represents R&D qualified tax credits offered by the UK government in support of advances of science and technology.

**Other expenses** encompass taxes and other governmental charges as well as effects of FX movements.

**Depreciation:** Ranplan does not capitalise its own, or, for that matter, 3<sup>rd</sup> party software or hardware (such as laptops, desktops, servers). The only fixed assets on the balance sheet relate to office equipment which are written off over 24 months.

**Amortisation:** As no R&D expenses or intellectual property rights are capitalised, there are no intangible assets held on the balance sheet. Consequently, no amortisation of intangible assets is being made.

**Income tax:** Ranplan does not incur income tax at this juncture. On sales to certain countries, the buyer deducts a withholding passed to its local government. These withholdings may be recovered in future (in the case of which reversals occur). The withholding tax is part of other expenses in the income statement.

**EBITDA:** Operating income (often abbreviated EBIT – earnings before interest and tax) in the income statement is often identical to EBITDA, earnings before interest, tax, depreciation and amortisation.

### Abbreviations

**R&D:** Research and Development

**S&M:** Sales and Marketing

**G&A:** General and Administration

**OPEX:** Operating Expenditures

**D&A:** Depreciation and Amortisation

**Gross profit:** gross margin x total income

**EPS:** Earnings per share

**AI:** Artificial Intelligence

**ML:** Machine Learning

**IPR:** Intellectual Property Rights

**OSS:** Operations Support Systems

## Company Description

Ranplan is a software company that develops and markets a suite of solutions that allow mobile operators, telecommunication equipment vendors and system integrators to cost effectively and accurately plan, design and optimise 4G (LTE), 5G and Wi-Fi wireless networks inside the walls of buildings and in outdoor urban environments.

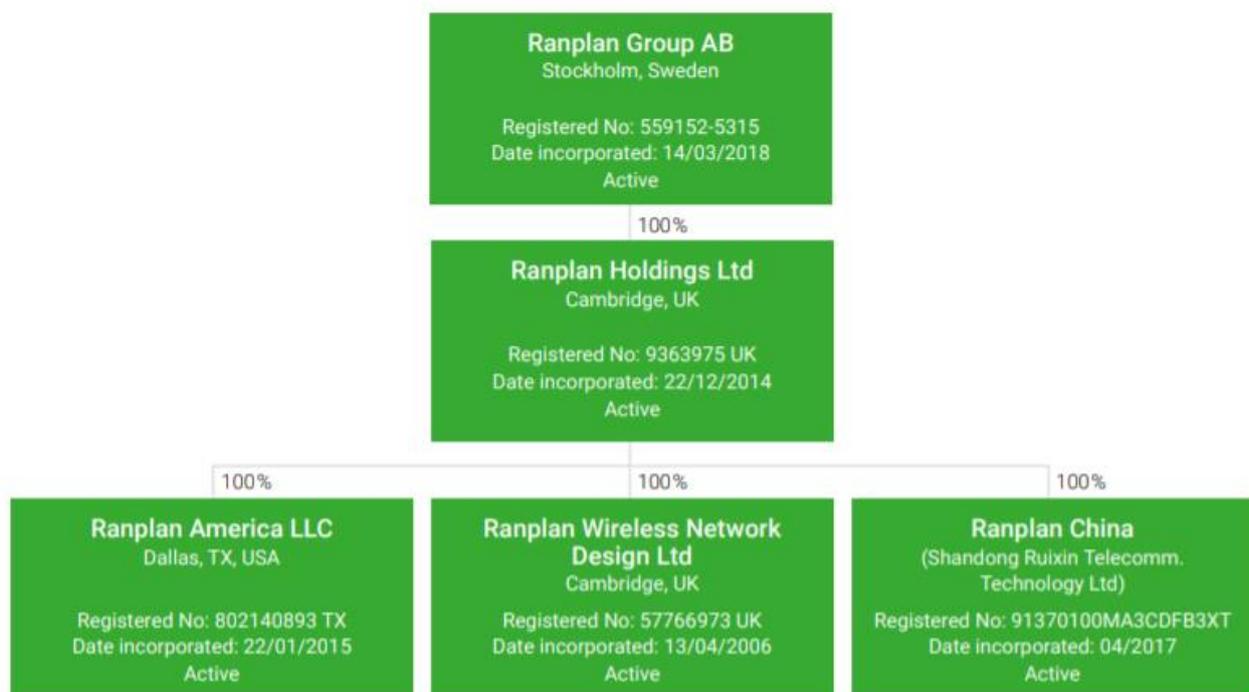
The purpose of an in-building wireless network is to provide enhanced network coverage and/or capacity when the existing outdoor network is not able to adequately satisfy the exacting requirements. Coverage may be poor due either to high penetration losses caused by the building structure or the latest materials used that are designed to improve thermal performance of the building. In dense urban environments, adjacent buildings may create an RF barrier that blocks coverage from nearby outdoor networks. Tall buildings typically have poor coverage on upper floors since outdoor antennas, many floors below, are specifically designed to suppress energy radiating above the horizon. Capacity may be an issue in venues such as stadia and convention centres where many thousands of users may be trying to simultaneously access the network, causing severe congestions.

Today, over 80 % of mobile data traffic is generated in buildings with only approximately 2 % of commercial buildings having a dedicated in-building (cellular) wireless network. Research also shows that in-building wireless networks could increase the value of the property by 28 % on average. With the roll out of 4G (LTE) and 5G technologies, the need to construct in-building wireless networks has increased and will continue to increase.

Ranplan's operational ambition is to increase its position in the fast-emerging wireless market by providing quality software to enable mobile operators and telecommunications equipment vendors to plan wireless networks more accurately and cost effectively. While the nature of the company's operations entail that its results are likely to vary markedly between reporting periods, Senior Management will continue to prioritise the creation of lasting industrial value.

Ranplan Group AB has been listed on Nasdaq First North Stockholm since June 2018, trading with the ticker RPLAN, ISIN: SE0011178201. It is the parent company of the Group with the following wholly-owned subsidiaries: (i) Ranplan Holdings Ltd (UK), (ii) Ranplan Wireless Network Design Ltd (UK), (iii) Ranplan China (Shandong, Ruixin Telecomm. Technology Ltd, China), and (iv) Ranplan America LLC (Dallas, Texas, USA). All votes and shares in the subsidiaries are held by companies within the Group.

## Organisational Chart



The Board of Directors and CEO hereby assure that this Annual Statement for calendar and fiscal 2021 provides a true and fair overview of the performance of the parent company's and the Group's operations, financial position and earnings, and that it describes the significant risks and factors of uncertainty to which the Parent Company and the companies included in the Group are exposed.

The English version of this report takes precedence over any other representation.

Stockholm 24 February 2022

Tomas Isaksson, Chairman of the Board

Jie Zhang, Board member

Wen Yang, Board member

Jon Ullmark, Board member

## Other information

### Auditor's review

This interim report has not been reviewed by the company's auditors.

### 2020 Annual General Meeting

The Annual General Meeting was held on 17 May 2021 in Stockholm, Sweden.

### Certified Adviser

FNCA Sweden AB

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### Questions regarding this interim report are answered by:

CEO Per Lindberg

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Telephone: +46 79 340 7592

### Financial calendar – provisional dates in 2022

24 Feb: Annual Statement for 2021

18 Apr: Annual Report for 2021

16 May: AGM for 2021, in Stockholm, Sweden

25 Aug: Interim Report for the first half of 2022

### Contact

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Date: 24 Feb 2022