



RANPLAN GROUP AB

Interim Report

January – June 2023



Perfecting Wireless Networks



First half of 2023 (first half of 2022)

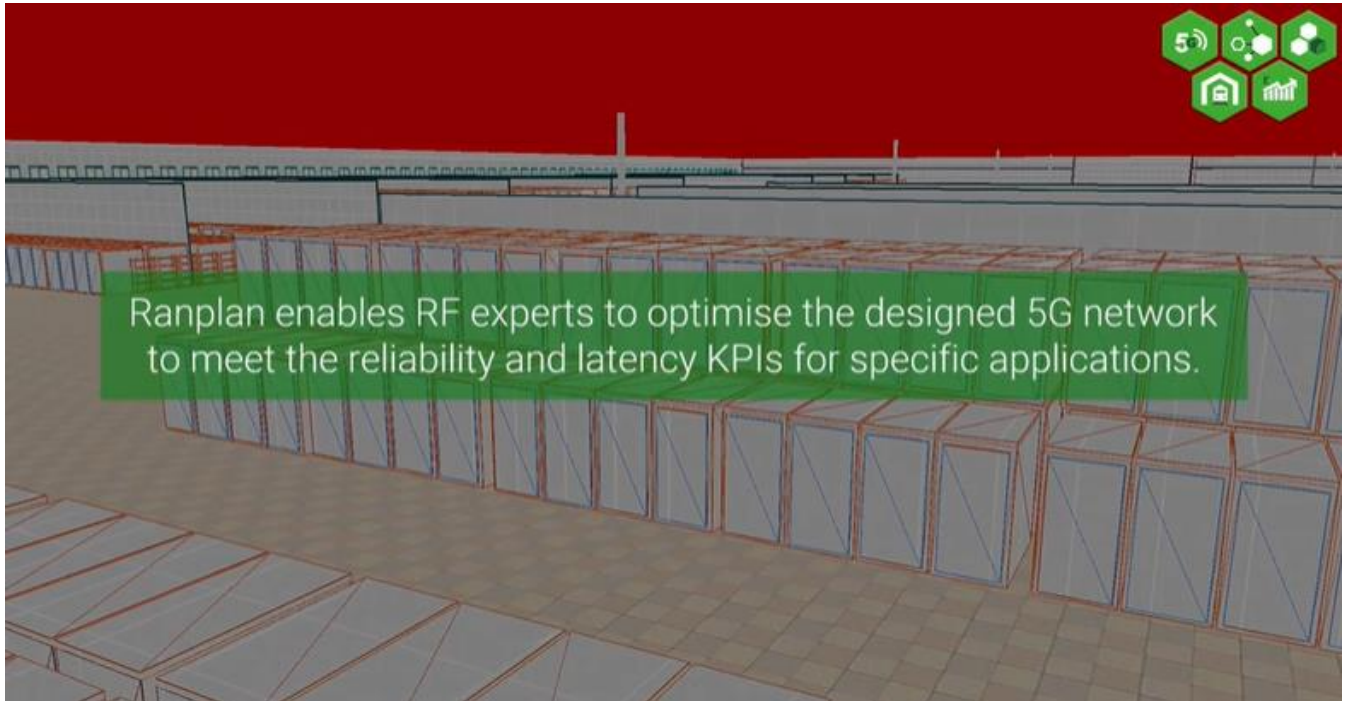
- ◆ Total income amounted to SEK 11.6 million (13.8 million)¹
- ◆ Net sales amounted to SEK 6.2 million (8.0 million)
- ◆ Operating income amounted to SEK -14.2 million (-13.7 million)
- ◆ Net income amounted to SEK -15.5 million (-13.7 million)
- ◆ Earnings per share amounted to SEK -0.51 (-0.45)
- ◆ Cash flow from operations amounted to -SEK 10.7 million (-13.5 million)
- ◆ Cash at the end of the period amounted to SEK 11.6 million (3.9 million)

Significant events in the first half of 2023 and year-to-date

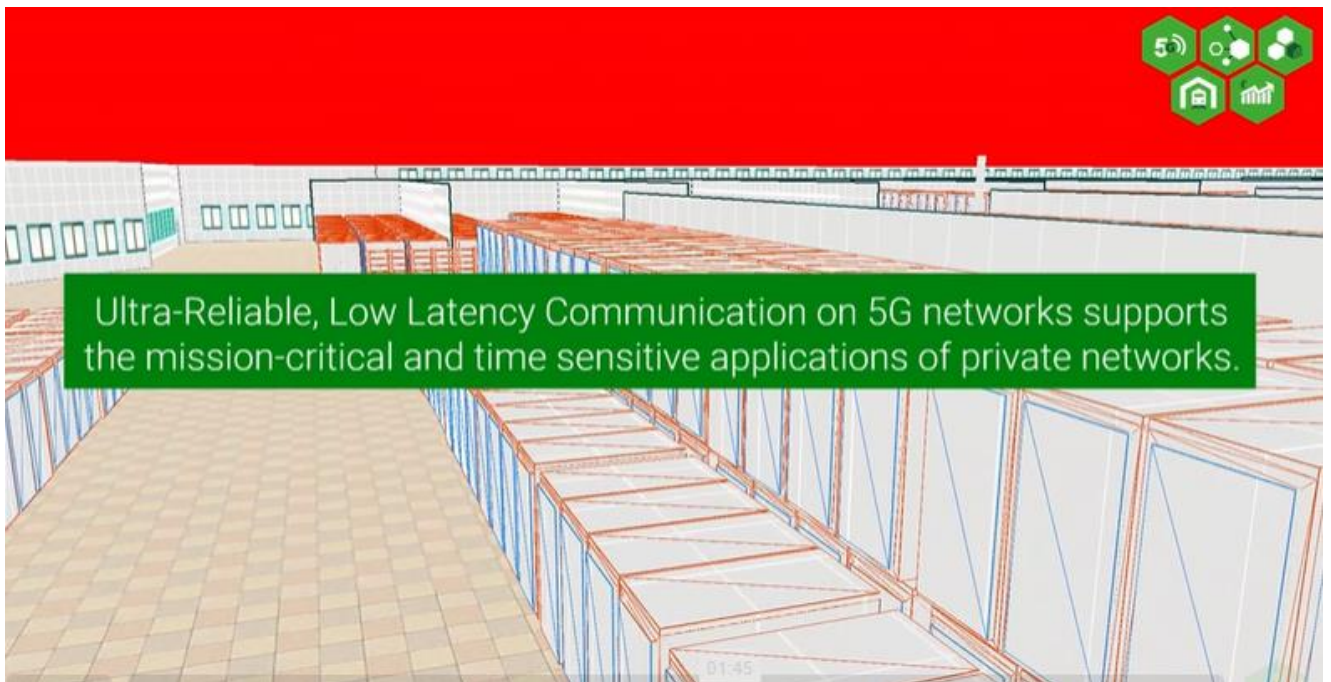
- ◆ On 24 April 2023, at the AGM in Stockholm, it was resolved that Tomas Isaksson be re-elected as chairman, and that Jie Zhang, Wendy Yang and Jon Ullmark be re-elected as ordinary members of the board.
- ◆ In late April 2023, Ranplan made its latest release of Professional (“PRO 6.8”) commercially available.
- ◆ On 3 July 2023, Ranplan Wireless announced a significant order related to network design services. The order, valued at around SEK 2.5 million, is expected to be substantially revenue recognised in the second half of calendar 2023. The project – associated with additional man-hours – will be dilutive to the gross margin which absent any services elements has had a history of hovering above 95%.

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 from R&D tax credits).

PRO 6.8 introduces new features to Ranplan Wireless' software



With the launch of PROFESSIONAL 6.8 in the spring of 2023, Ranplan Wireless added latency and reliability heatmaps to its repertoire of performance metrics. These functions are of great importance to enable the smart factory of the future.



Words from the CEO

An unusually soft start to the year, especially in January – February, caused a decline in net sales in the first six months of 2023. A healthy improvement in order intake, however, was registered towards the end of the period, culminating in a ground-breaking private wireless contract in the Americas which involves the provision of not only software but also expert design services to master a prestigious project.

Income from research-related activities, as anticipated, saw a modest decrease as the positive impact of a recovery in new grants was more than offset by materially lower contribution from tax credits (as a direct effect of changes in the criteria concerning financial support, see page 18 for further clarifications).

Losses from operations, excluding the effects of the depreciation of the SEK, were essentially unchanged. Measures to contain costs in an inflationary environment and maximise efficiency gains through process refinements helped. Courtesy of a net release of working capital, cash flow from operations improved.

While cash on hand of SEK 11.6 million at the end of June, up from SEK 5.1 million six months earlier and SEK 3.9 million twelve months ago, together with the undrawn portion of the credit line of SEK 20 million, provides quite a robust cushion for the remainder of the year, the Board of Directors - authorised at the most recent AGM to decide on a directed issue - continually evaluate various sources of additional funds with the aim of realising the Company's capacity to foster long-term shareholder value.

Although our commercial revenues and total income diminished in the beginning of 2023, our confidence in our ability and motivity has not. In the course of the first half of 2023, we have been reassured by several important engagements that we possess very competitive products, that we are uniquely placed to help our customers become successful in the field of Private Wireless and that we, collectively and individually, continually demonstrate (and have demonstrated) unwavering stamina (strength) to navigate with agility and speed in times better or worse.

Customer interactions, resulting in detailed case studies and field trials demonstrate vividly the attractiveness of our suite of tools, not only for in-building design but also, importantly, for an unrivalled mastery of HetNets – the sophisticated art of handling in- and outdoor networks in complete coordination and unison (for which interference analytics and utmost accuracy play pivotal roles). Whilst the bandwagon surrounding Private Wireless (also known as dedicated (wireless) networks) has yet to obtain widespread traction, recent developments suggest that an acceleration is well underway. We will seek to stimulate this segment in close cooperation with selected partners by offering design services using both internal and external resources with documented proficiency in using our tools.

Provision of design services with the help of both internal and external resources constitutes a catalyst to creating broad market acceptance, expanding our sales trajectory, and cementing customer relationships. With the advent of 5G (and 6G in the coming) for industrial applications (including manufacturing and warehousing), customers with increased frequency turn to us for turn-key solutions – through which a total package of products and services can be purchased. We stand well prepared to meet these requirements with a comprehensive suite of software and a large group of highly qualified radio engineers trained and certified on our tools. We can help clients get the quality right from day one.

Go-to-market partnerships constitute a centrepiece of our strategic imperatives. By liaising with commercially motivated and technically competent sales organisations and representatives (including freelancing individuals or teams), we will be able to establish a firm local presence and enhance our visibility within our niche community without much additional effort in terms of capital and physical resources. So far in 2023, we have entered into agreements with several entrenched resellers in India, Africa and the Middle East with a number of interesting prospects opening up in the near-term pipeline.

With the help of many more ears and eyes on the ground, we will be better positioned to explore new opportunities, such as upcoming tenders, where we enjoy a competitive edge, can offer a strong value proposition and hence stand a good chance of a successful outcome. Given the diverse nature of the industry in which we operate, selectivity will remain a critical decision criterion. Experience from North-East Asia, notably China, Hongkong, Japan, South Korea and Taiwan serves to underscore these points.

Like the information technology and wireless industry at large, we have adapted and will continue to adapt to adverse changes in the external environment. We did so as the exceedingly business-restrictive effects of the covid-pandemic became clear; we did so again in reaction to the broader ramifications of the expanded war in Ukraine; we did so in response to the repercussions of soaring inflation and cost of capital on a global scale; and, we do so today, in a direct riposte to the reverberations of a downturn in telecom investments. The overarching objective, in the past as well as now, is to lower our costs, bolster our productivity and sharpen our focus on profitability. In so doing, we make ourselves stronger for longer.

Whilst, as customary, we refrain from providing any guidance, we have noted considerably healthier order intake in the beginning of the second half than in the first. Therefore, barring any unforeseen events (of which there have been plenty in recent years), we would be inclined at this juncture to expect a noticeable rebound in net sales in the latter part of calendar 2023. These remarks notwithstanding, we will closely monitor the situation, embark on streamlining measures where necessary and narrow our focus in terms of product development. Thanks to the operating leverage built into our commercial model, we know that it does not take much in the way of additional contracts (of significance and scale) for us to produce cash flow margins typical of companies running a pure or nearly pure software licensing business. In parallel, provision of network design services should be accretive to sales growth and the bottom-line.



Per Lindberg, CEO



Summary of the period

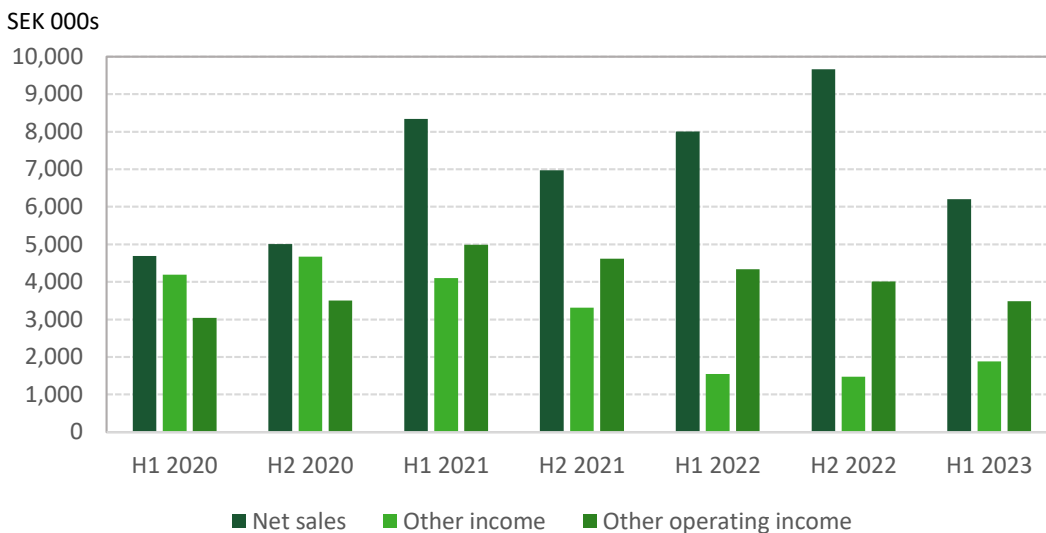
Amid a weakening economic backdrop, rising borrowing costs and muted investment appetites within the telecommunications sector, the Company experienced in the beginning of the year a more cautious environment, characterised by prolonged sales cycles, more cumbersome decision-making (approval) processes and, in some cases, even cancellations or deferrals of ongoing and well-advanced projects. The results are reflected in a like-for-like decline in net sales to the tune of 25% with FX-adjusted losses from operations on par with those reported in the immediately preceding half-year periods. Income from research projects saw a healthy recovery (albeit from a low base of comparison), whilst, as anticipated and as flagged (see Annual Statement and Annual Report for 2022), other operating income (associated with tax credits for qualified research and development activities) began to shrink (as a direct effect of changes to UK policies related thereto). In response, selective streamlining measures have been initiated by management in a bid to extract maximum efficiency from the very core of operations. These remarks notwithstanding, business activities remain robust with no signs of any deterioration in underlying (fundamental) demand, or, for that matter, any loss of competitiveness. On the contrary, the Company discerns heightened appreciation for and recognition of the unique capabilities of its product portfolio with particular attention paid to the advanced use cases that new industrial applications bring to bear. Towards the very end of the first half, a significant order for network design services in the USA was won.

Financials

Profit & Loss

Total income in the first six months of 2023 (1 Jan – 30 June 2023) reached SEK 11.6 million, representing a decrease of 16% and 24% in comparison with the figures for H1 2022 and H2 2022, respectively. Net sales derived solely from commercial products and services shrank by 23% and 36% respectively from the same reference periods. Other income related to research grants rose by 22% and 28% on a year-earlier and half-year sequential basis, respectively. Other operating income, drawn from R&D tax credits, contracted by 20% compared with the corresponding period in 2022. The reduction, affecting April-June, is poised to be compounded in the second half as the full effects of changes to qualifying criteria are felt.

Total income by half-year period*



SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
Net sales	8,345	6,970	8,007	9,661	6,201
Other income	4,097	3,314	1,543	1,470	1,882
Other operating income	4,993	4,619	4,334	4,010	3,486
Total Income	17,435	14,903	13,833	15,141	11,568

*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 to R&D tax credits in the United Kingdom.

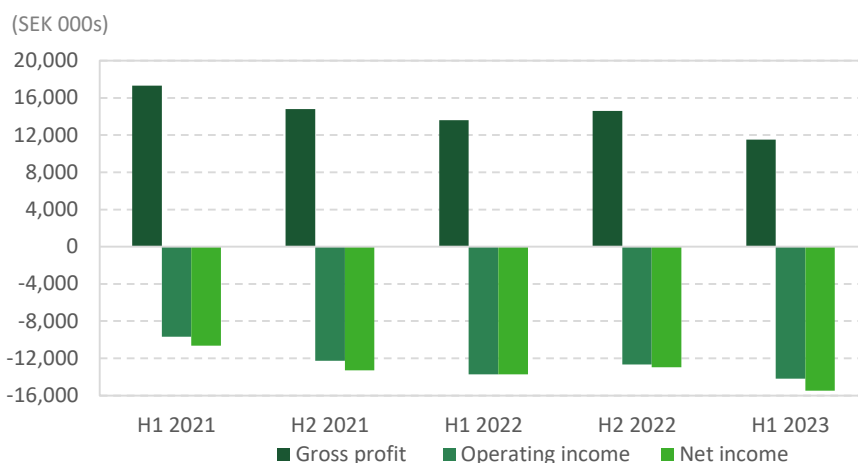
Total income mix by half-year period

SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
Net sales	48%	47%	58%	64%	54%
Other income	23%	22%	11%	10%	16%
Other operating income	29%	31%	31%	26%	30%
Total Income	100%	100%	100%	100%	100%

Operating profit in H1 2023 amounted to -SEK 14.2 million compared with -SEK 13.7 million in the first half and -SEK 12.6 million in the second half of 2022, respectively. It should be noted that absent FX-fluctuations, translating into a much weakened reporting currency, the stated operating loss would have been lower. Net income amounted to -SEK 15.5 million compared with -SEK 13.7 million and -SEK 13.0 million in first and second half of 2022, respectively. Interest expenses increased by SEK 1 million versus the second half of 2022.

Gross profit, here defined as the difference between total income and cost of sales, contracted by 15% and 21% in comparison with the first and second half of 2022, respectively. 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 product, 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)* are almost invariably additive to operating expenses.

Gross profit, operating and net income



SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
Gross profit	17,322	14,801	13,616	14,608	11,523
Operating income	-9,671	-12,258	-13,737	-12,646	-14,185
Net income	-10,634	-13,288	-13,720	-12,976	-15,487

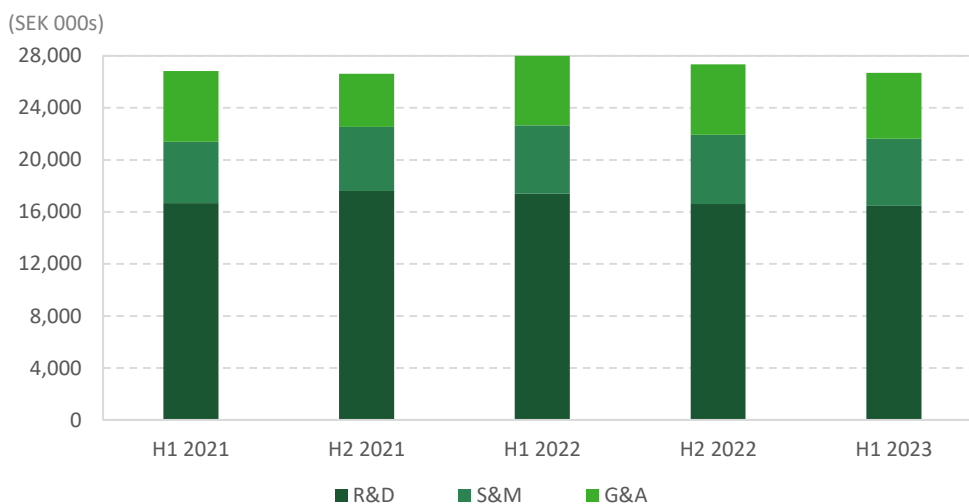
Earnings per share, here defined as net income divided by the average number of outstanding shares before any dilution, amounted to -SEK 0.51 in the first half of 2023, down from -SEK 0.45 in the year-earlier period.

Earnings per share

SEK 000s/SEK per share	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
Net income (SEK 000s)	-10,634	-13,288	-13,720	-12,976	-15,487
Average no of shares (000s)	24,138	27,171	30,438	30,438	30,438
EPS (SEK)	-0.44	-0.49	-0.45	-0.43	-0.51

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 26.7 million, 5% and 2% lower than in the first and second half of 2022, respectively. Filtering out the effects of foreign exchange movements, one notes that the like-for-like (underlying) decreases are quite more substantial. R&D investments – all of which expensed as work is undertaken – shrank by 5% year-on-year to SEK 16.5 million. Sales and marketing costs were essentially unchanged at SEK 5.2 million. Expenses associated with general functions and administration diminished by 7% to SEK 5.1 million. R&D made up represented close to two-thirds (62%) of overall operating expenditures. Restructuring costs and any other exceptional items are included on an ongoing basis in the reported figures.

Operating expenses by activity*



SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
R&D	16,668	17,602	17,395	16,617	16,459
S&M	4,725	4,934	5,269	5,321	5,171
G&A	5,432	4,098	5,409	5,417	5,055
OPEX	26,825	26,634	28,073	27,355	26,685

*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”).

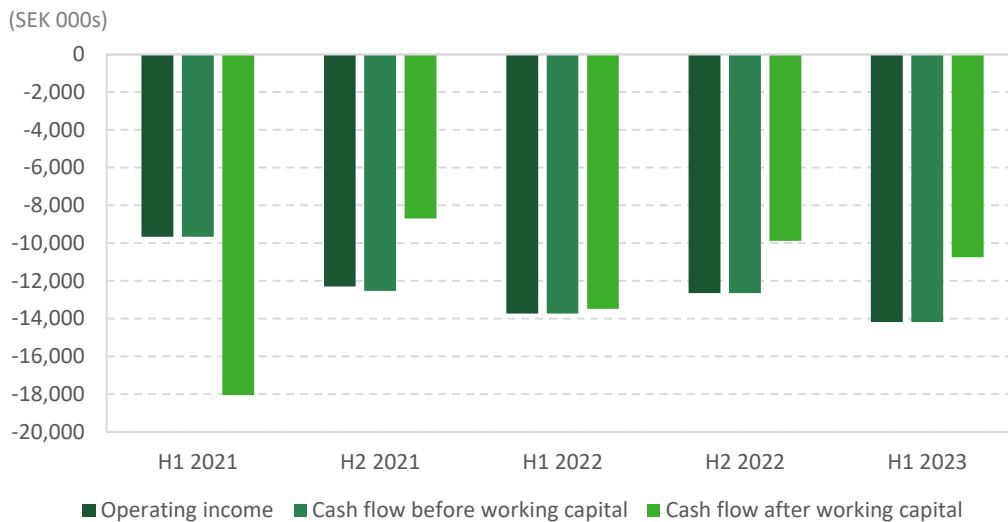
Operating cash flow (OpCF) amounted to -SEK 10.7 million versus -SEK 13.5 million and -SEK 9.9 million in the first and second half of 2022, respectively. Before movements of working capital (no inventories), a more stable pattern – mimicking that of reported operating income (as a direct consequence of the fact that no investments or depreciations/amortisations take place) – can be discerned: -SEK 14.2 million in the first half of 2023 compares with -SEK 13.7 million and -SEK 12.6 million in the first and second half of 2022, respectively.

Summary of results by half-year period

SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
Cash flow before working capital	-9,671	-12,527	-13,737	-12,646	-14,185
Working capital	-8,377	3,823	261	2,769	3,440
Cash flow after working capital	-18,048	-8,704	-13,476	-9,877	-10,745
Investments	0	0	0	0	0

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.

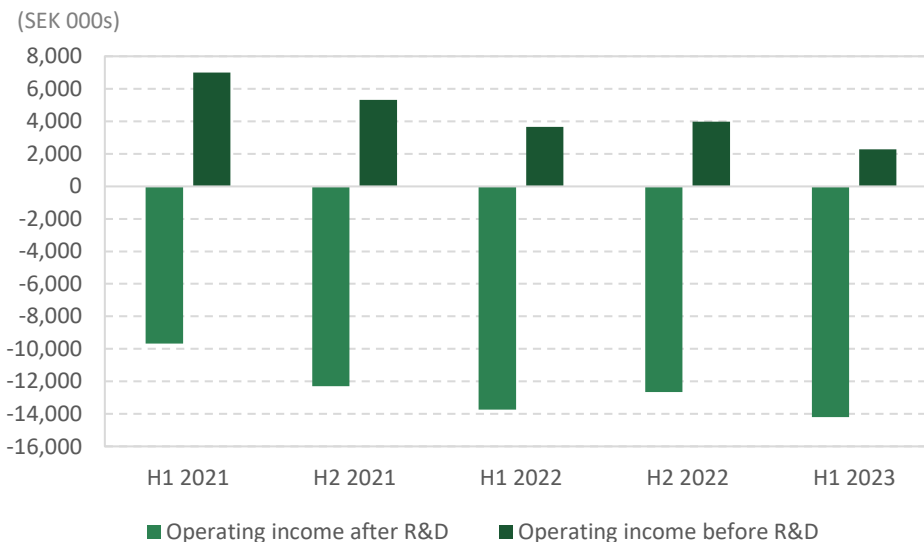
Operating income, cash flow (“OpCF”) before and after working capital



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 is recorded). As an alternative measure of performance, investors may note that in the first half of 2023, the Company incurred a surplus SEK 2.3 million at the operating level before R&D expenses, equivalent to 37% of net sales – these figures can be compared with an operating loss of SEK 14.2 million, well in excess of reported total income at SEK 11.6 million after instantly absorbing 100% of all R&D expenses presentable in the Group’s income statement.

Operating income before and after R&D expenditures



SEK 000s	H1 2021	H2 2021	H1 2022	H2 2022	H1 2023
R&D expenditures	16,668	17,602	17,395	16,617	16,459
Operating income after R&D	-9,671	-12,294	-13,737	-12,646	-14,185
Operating income before R&D	6,997	5,308	3,658	3,971	2,274
Share of net sales	84%	76%	46%	41%	37%

Balance sheet

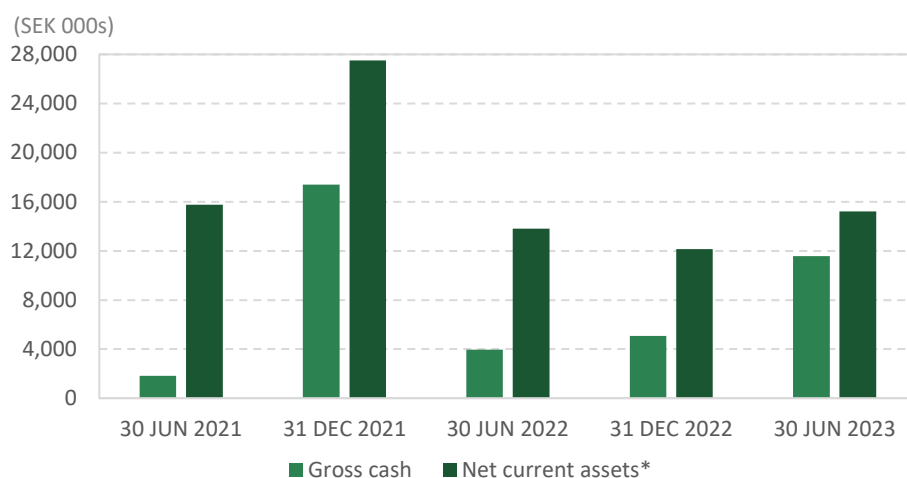
At the end of June 2023, the Company held gross cash of SEK 11.6 million, up from SEK 3.9 million twelve and SEK 5.1 million six months earlier, respectively. Net cash both amounted to -SEK 18.3 million, compared with +SEK 3.9 million and -SEK 6.3 million at the end of June 2022 and December 2022, respectively. The increase in debt reflects the accumulation of loans and accrued interest. The credit line with a ceiling set at SEK 50 million, expiring in July 2024, had SEK 20 million undrawn on 30 June 2023.

Balance sheet summary

SEK 000s	30 JUN 2021	31 DEC 2021	30 JUN 2022	31 DEC 2022	30 JUN 2023
Net current assets*	15,763	27,519	13,798	12,152	15,218
Gross cash	1,831	17,409	3,949	5,072	11,577
Net cash	-24,746	17,409	3,949	-6,258	-18,304
Shareholders' equity	-10,814	27,518	13,798	823	-14,664
o/w fixed assets	0	0	0	0	0
o/w intangible assets	0	0	0	0	0

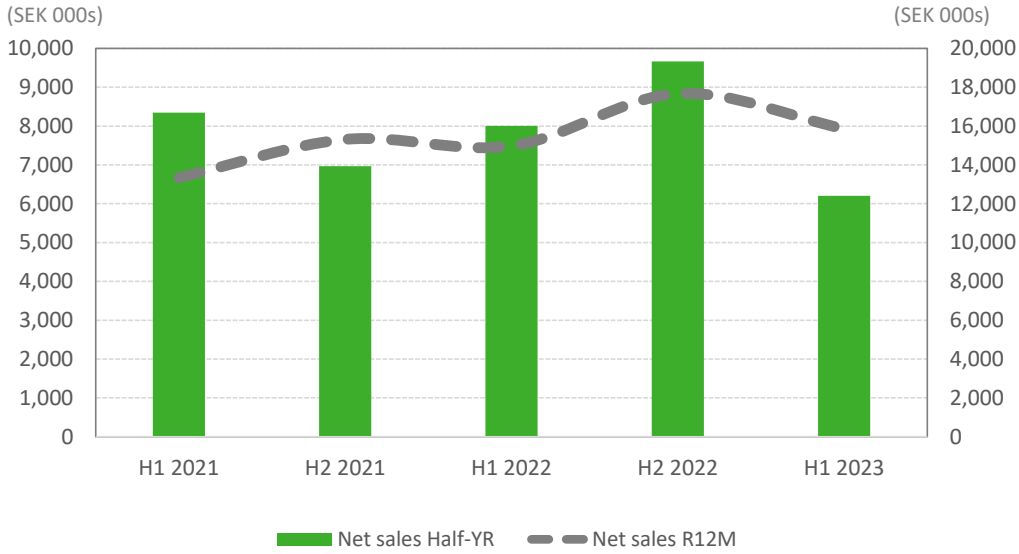
*defined as current assets (including gross cash) less current liabilities

Net current assets and net cash by end of half-year period

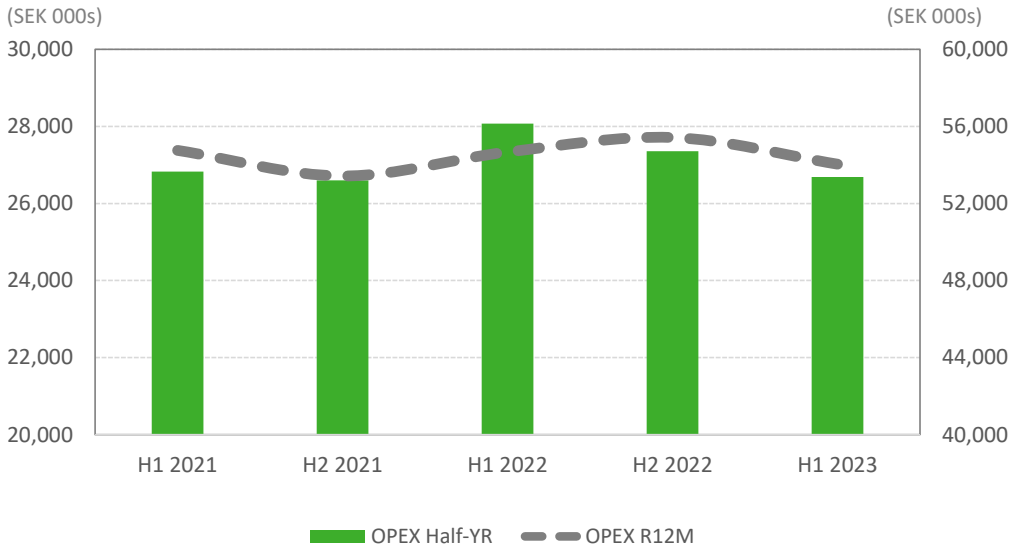


Shareholders' equity amounted to -SEK 14.7 million at the end of June 2023, down from +SEK 13.8 million twelve months earlier and down from SEK 0.8 million at the end of 2022. It should be clarified that the balance sheet contains no intangible assets, neither in the form of patents (of which more than twenty have been granted), nor in the form of capitalised R&D. Since the beginning of 2017, the Company has spent close to SEK 195 million on R&D investments and reported revenues in excess of SEK 80 million. No values are attributable on the balance sheet to the patent portfolio, or, as an aside, to losses carried forward (which could engender economic value in the event that profits would be attained or sustained).

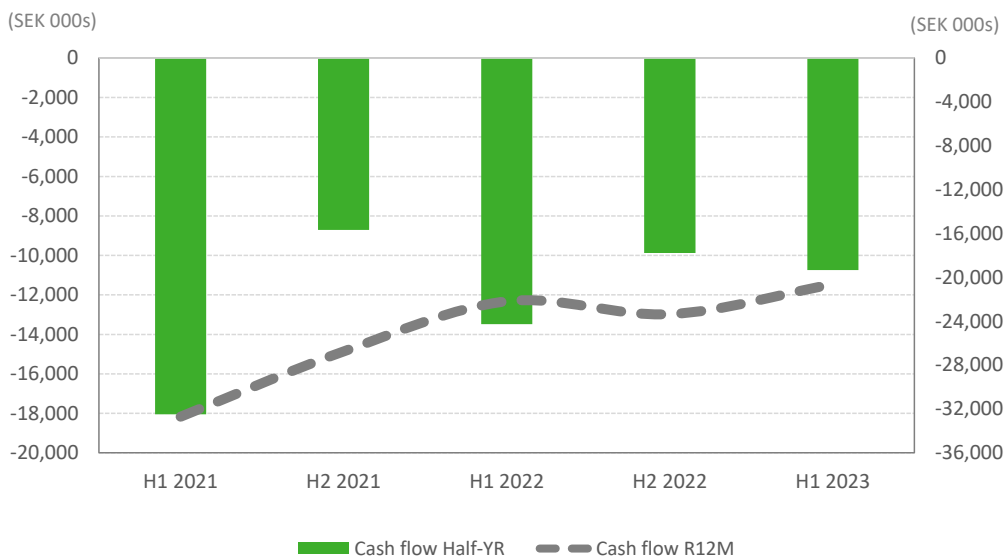
Net sales by half-year period and on a rolling twelve-months basis



Operating expenses by half-year period and on a rolling twelve-months basis

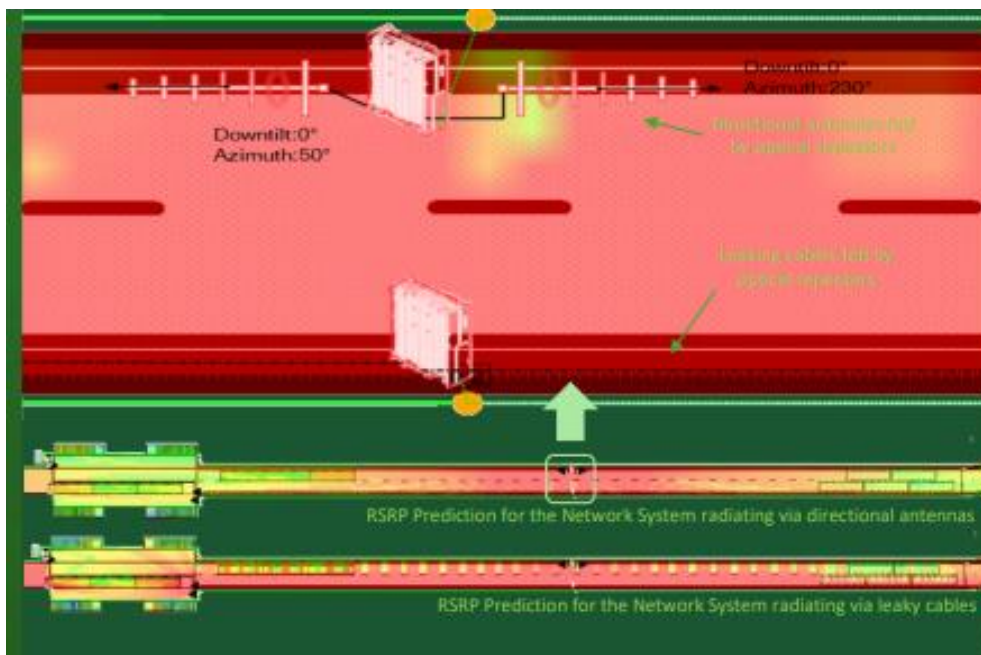


Operating cash-flow by half-year period and on a rolling twelve-months basis



Ranplan Wireless for Tunnel Design

One of the most advanced, critical and demanding use cases where Ranplan sets itself positively apart from its peers concerns tunnel design – an arena where exacting requirements in the most complex and varied of situations must be met. It illustrates pointedly the advantages of mastering radio modelling – using a single, unified approach – on either side of the physical obstructions (to the natural propagation of wireless waves). Ranplan Wireless’ tools support diverse network structures from standard distributed antennas systems (aka DAS) with omni-directional and directional antennas over small cells systems or structures radiating through leaky cables. A leaking cable as a radiating element enables seamless coverage of the entire tunnel tube avoiding no-coverage spots. Ranplan Wireless is currently involved in discussions with several potential customers in the railway and transportation sector. The salient aim is to enable network design that ensures reliable connectivity from a coverage and capacity perspective.



TUNNEL, TRAIN AND CARRIAGE MODELLING

- Ranplan supports manual tunnel modelling
- MESH structures can be imported from .obj formats
- Carriage usually modelled as a rectangular block with doors and windows of a specific material
- High-detailed coach structures can be included
- Material DB offers a wide range of materials as concrete, stone, brick, plaster, plastic or glass kinds for structures modelling.
- Material transparency configuration helps with the visual analysis in 3D view
- Ranplan Tools can evaluate the Signal coverage and capacity inside trains

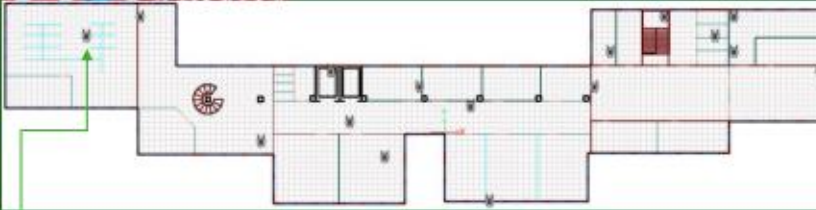
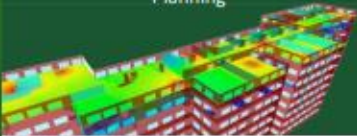
Ranplan Wireless on AI-powered algorithms

Another domain where Ranplan has demonstrated its prowess revolves around its optimisers – in effect, AI-driven algorithms that allow design engineers to minimise the number of antennas that are required to be deployed to satisfy pre-set performance criteria (which can relate to signal strength, throughput etc). Carefully crafted field trials have proven that these unique functions can help to dramatically reduce both upfront investments (related to the purchase and the installation of radio network equipment) and operating expenses (which, inevitably, tends to correlate closely with the overall size of any network). Further benefits emanate from a performance point of view – of particular significance for the most demanding of industrial applications: fewer antennas serve to assuage interference between nodes.

AUTOMATIC INTELLIGENT OPTIMIZATION IN RANPLAN

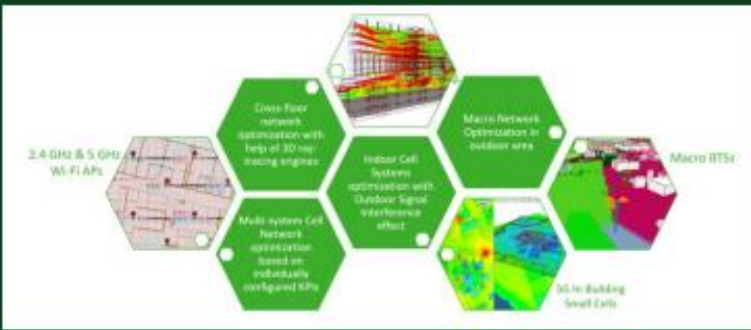
A set of automatic processes is available for network optimization in Ranplan such as:

- **ICO (Intelligent Cell Optimization):** Automatic AP location allocation and Tx-power assignment based on given coverage and leakage performance indicators.
- **IFO (Intelligent Frequency Optimization):** Automatic channel frequency optimization mitigating the Co-Channel Interference mitigation and improving the system capacity
- **IAO (Intelligent Antenna Optimization):** DAS focused, intelligent antenna placement and selection in addition to power tuning.
- **ITO (Intelligent Topology Optimization):** Optimizing splitters and couplers in the DAS design to achieve desired power balance to each antenna/node.
- Intelligent Network Profiler, Intelligent PCI Planning & Intelligent RSI Planning



Automatic 5G 28 GHz Small Cells Deployment and Optimization by ICO

Automatic Cell Optimizer as new comprehensive optimization for Cell centric indoor and outdoor systems



2.4 GHz & 5 GHz Wi-Fi APs

Cross-Floor network optimization with help of 3D modeling engines

Multi-system Cell Network optimization based on individually configured KPIs

Indoor Cell Systems optimization with 3D indoor signal-interference effect

Macro Network Optimization in outdoor area

Macro BTSs

5G in Building Small Cells

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 its financial performance by quarter. All comparisons in this section are made on a six- or twelve-months 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”).

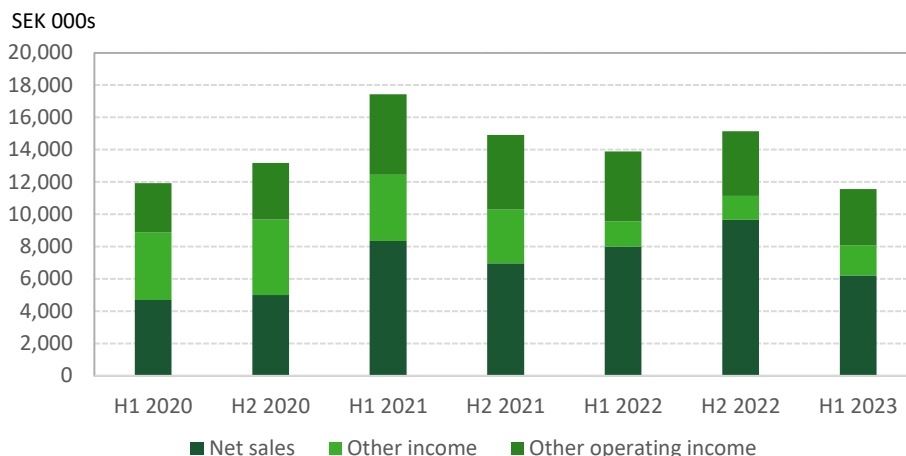
Comments on the H1 2023 results

Income Statement

For the purpose of interpreting underlying developments and trends, it is worthwhile noticing that in the light of the pronounced depreciation of the reporting currency – the SEK has lost value markedly against primarily the USD, the GBP and to a lesser extend the CNY and the EUR – comparisons of reported figures are not like-for-like. Both income (actual or expected cash-in) and costs/expenses (actual or expected cash-out) have risen as a direct effect of foreign exchange movements since the beginning of the year. As the company still incurs losses (higher costs than income with negative exposure primarily to the GBP), operating and net income have been negatively affected by FX changes. Differently put, had the SEK enjoyed the same exchange rates as it did a year ago, then the income and the costs of operations would have been discernibly more subdued with the balance of these two components being less pronounced.

In the first six months of 2023, total income amounted to SEK 11.6 million, 16% lower than in the corresponding period of 2022. The decrease is mainly attributable to net sales (down 23%) and, predictably, other operating income, i.e., tax credits (down 20%). Income from research grants, by contrast, showed a healthy rebound of 22% (from an unusually depressed base of comparison). All elements of income benefitted from the marked depreciation of the SEK versus the USD, EUR and GBP.

Total income by half-year period



The gross margin – measured here as the ratio of gross profit and total income – held relatively steady at 100%, mirroring the nearly pure software licensing model of the Company's commercial operations (in periods with no or hardly any resale of third-party products or services – activities which otherwise are bound to have a significant impact on reported cost of sales and hence also on the gross margin).

On a reported basis, research and development expenditures were broadly stable at SEK 16.5 million in the first half of 2023 (SEK 17.4 million in the first and SEK 16.6 million in the second half of 2022). On a twelve-month trailing (L12M) basis, these investments hover around SEK 33.1 million, corresponding to 124% of Total Income over the same period of time (of which Net Sales related to commercial products and services made up close to 60%). As in previous financial reports, all forms of R&D are instantly expensed as liabilities are incurred (no capitalisation, making the balance sheet free of intangible assets). Costs associated with restructuring or other events that could be viewed as non-recurring are treated as an integral part of ongoing operations. Hence, there is no adjustments to the stated figures in this report.

Expenses related to sales and marketing ("*Sales costs*") at SEK 5.2 million contracted by 2-3% versus the year-earlier and half-year-earlier periods. The modest decrease, which would have been more pronounced had the SEK not depreciated so markedly, is attributable partly to a workforce reduction. Costs associated with general functions/management and administration fell by 7% on both an annual and sequential basis to SEK 5.1 million. Cost saving measures underpin the noted trend of development.

Other operating income/expenses, which does include the FX-translation impact on receivables (current assets) and payables (current liabilities) as well as local tax charges, rose to SEK 1.0 million (from SEK 0.7 million in the first and SEK 0.1 million in the second half of 2022). Please note that these fluctuations owe in part to the fact that current assets exceeded current liabilities by some SEK 10 million on 31 Dec 2022.

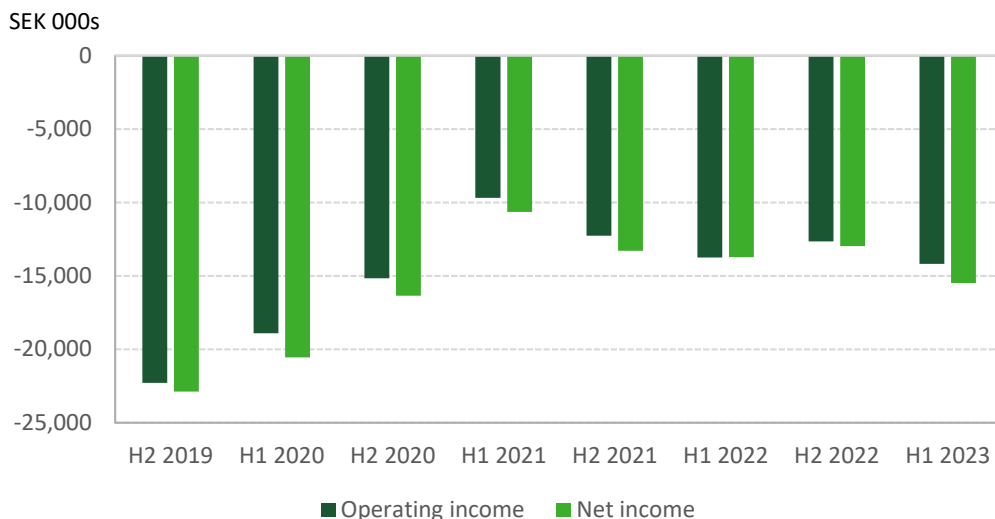
Reported losses from operations of SEK 14.2 million were roughly on a par with the level of SEK 13.7 million registered in the first six months of 2022. Absent the effects of adverse FX movements (losses expressed in SEK are magnified if the value of the SEK falls vis-à-vis particularly the GBP and to a lesser extent the USD and the EUR), the underlying operating results can be deemed to be essentially invariant.

Financial income and expenses, attributable solely to accrued interest on loans related to the credit line, amounted to -SEK 1.6 million. The higher deficit compared with the year-earlier (SEK 0.0 million) and half-year-earlier period (-SEK 0.3 million) reflects the accumulation of loans (SEK 29.9 million on 30 June).

Following no provision for taxes, net income – equalling pre-tax income - amounted to a -SEK 15.5 million versus a -SEK 13.7 million in H1 2022 and -SEK 13.0 million in H2 2022. Filtering out the effects of foreign exchange, which, all else equal, magnifies the SEK deficit, one detects a quite a high degree of stability.

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. In the first half of 2023, around SEK 8.7 million related to such grants were collected. At the end of June 2023, the Company carried tax credit receivables of c. SEK 3.7 million attributable to H1 2023 on its balance sheet.

Operating and net income by half-year period



“Despite FX-headwinds, losses from operations were largely invariant on the year-earlier period”

Balance Sheet

At the end of June 2023, shareholders’ equity amounted to -SEK 14.7 million compared with SEK 13.8 million at the end of June 2022 and SEK 0.8 million at the end of December 2022. Shareholders’ equity should be judged on the basis that no visible value is attached to either the patent portfolio or R&D investments – factors that, all else equal, should contribute positively to the Company’s ability to generate free cash flow. Since the beginning of 2017, the Company has invested SEK 191.4 million in research and development, equivalent to around USD 18 million at current exchange rates. This figure represents nearly eight times (8x) total assets reported on the balance sheet as of the end of June 2023. Until the company can demonstrate ability to generate profits, losses carried forward are not capitalised.

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

SEK millions	2017	2018	2019	2020	2021	2022	2023 JUN
R&D expenses (per annum)	18.3	23.6	30.5	34.2	34.3	34.0	16.5
Cumulative from 2017	18.3	41.9	72.4	106.6	140.9	174.9	191.4

At the end of first half, gross cash amounted to SEK 11.6 million, a marked increase from SEK 5.1 million and SEK 3.9 million six and twelve months earlier, respectively. Net current assets, the difference between current assets and current liabilities, included gross cash on the balance sheet, amounted to SEK 15.2 million at the end of June 2023, an increase from SEK 12.2 million since the beginning of 2022 and SEK 13.8 million a year earlier. Loans of SEK 29.9 million, including accrued interest were outstanding the end of June 2023, leaving around 40% (SEK 20 million) of the credit line (of SEK 50 million) unutilised.

The balance sheet remains completely free of fixed assets, even though, as documented in the income statement, ambitious investments in research and development are made. As a result, no charges associated with amortisation and depreciation are expected to be incurred for the foreseeable future. This also implies that there is no difference between reported operating income before and after depreciation and amortisation, nor with cash flow from operations before movements of working capital.

Balance sheet summary

SEK 000s	30 JUN 2021	31 DEC 2021	30 JUN 2022	30 DEC 2022	30 JUN 2023
Gross cash	1,831	17,409	3,949	5,072	11,577
Gross debt	26,576	0	0	11,330	29,881
Net cash	-24,746	17,409	3,949	-6,258	-18,304
Current assets	25,021	35,658	20,955	20,232	23,984
Current liabilities	9,258	8,139	7,157	8,080	8,767
Fixed assets	0	0	0	0	0
Shareholders' equity	0	27,518	13,798	806	-14,664

Personnel

The number of full-time employees, excluding contractors, in the Group was 56 at the end of June 2023, a reduction of 5 from 61 at the end of December 2022. With inclusion of contractors, the headcount broadly corresponding to full-time equivalents currently hovers around 60 versus 66 at the end of 2022.

External environment

The company will continue to adapt to changes in the external environment of any materiality. In the space of the last four years, it has coped with the effects of (i) uncertainties related to Brexit (formalised in January 2020), (ii) restrictions associated with the COVID pandemic (which broke out in earnest in February/March 2020 and lasted until the end of 2022 in mainland China), (iii) the expanded war in Ukraine (which prompted the company to pause business activities in Russia), (iv) component shortages (restraining customers' operational activities) and, not to overlook, (iv) inordinate inflationary pressures prompting central banks to take extreme measures to dramatically increase the cost of capital (which has negative implications for the investment plans of telecom carriers and their ecosystems of partners), as well as (v) significant foreign exchange changes adversely affecting reported income from operations.

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 considers to be material.

Further details can be found on the Company's website: www.ranplanwireless.com/gb/investors

- 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
- Support in the form of tax credits from UK authorities

In respect of the latter point, it is worth noting that the full effects have yet to materialise, see below.

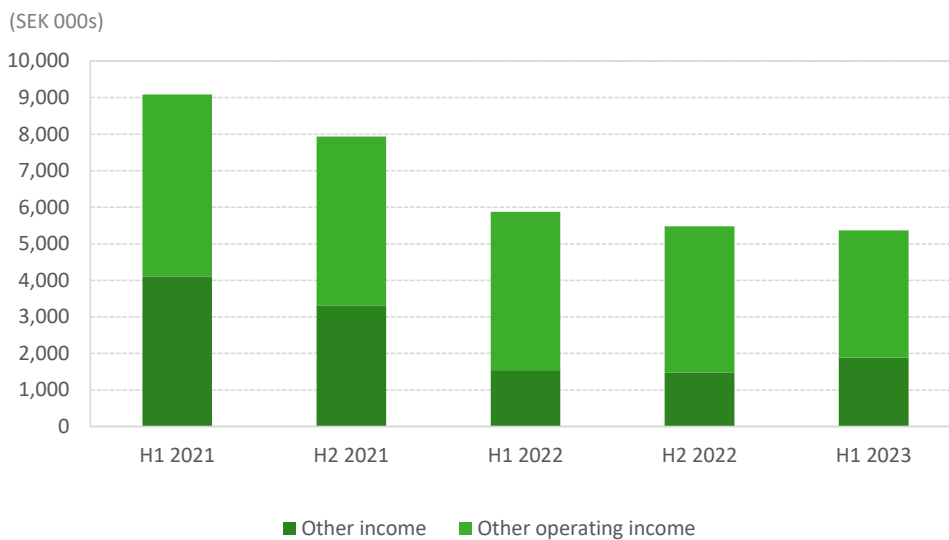
UK Autumn Statement

In conjunction with the Autumn Statement in November 2022, the UK Government declared its intention to introduce, effective 1 April 2023, more onerous criteria – especially in relation to the degree to which small enterprises will receive financial aid for qualified R&D. If the proposals stand, and no other means of support are provided, then Ranplan Wireless, the wholly owned UK subsidiary of Ranplan Group AB, will - all else equal - receive an estimated GBP 240k (c. SEK 3 million) and GBP 320k (c. SEK 4 million) less in tax credits in 2024 and 2025, respectively. At the end of 2022, Ranplan carried tax credit receivables valued at around SEK 8.4 million - attributable to research and development activities deemed to be eligible in calendar 2022 - on its balance sheet. Collection of these receivables was made in May 2023. On 30 June 2023, Ranplan held tax credit receivables valued at around SEK 3.8 million on its balance sheet.

R&D tax credits will be reformed to ensure public money is spent effectively and best supports innovation.

UK Autumn Statement 2022, 17 November 2022

Income from research-related activities*



*Other income represents research grants and other operating income (research) tax credits

Group consolidated accounts

GROUP INCOME STATEMENT (KSEK)	H1 2022	H2 2022	H1 2023	L12M
Operating income				
Net sales (commercial products)	8,007	9,661	6,201	15,862
Other income (research)	1,543	1,470	1,882	3,352
Other operating income (tax credits)	4,334	4,010	3,486	7,496
Total income	13,883	15,141	11,568	26,709
Cost of sales	-267	-533	-45	-578
Gross profit	13,616	14,608	11,523	26,131
Research and development	-17,395	-16,617	-16,459	-33,076
Sales costs	-5,269	-5,321	-5,171	-10,492
Administration costs	-5,409	-5,417	-5,055	-10,472
Other income/expenses	720	101	976	1,077
Operating profit	-13,737	-12,646	-14,185	-26,831
Financial items				
Financial income and expenses	17	-330	-1,301	-1,631
Total financial items	17	-330	-1,301	-1,631
Income after financial items				
Tax	0	0	0	0
Net income for the period	-13,720	-12,976	-15,487	-28,463

GROUP BALANCE SHEET (KSEK)	30 JUN 2022	31 DEC 2022	30 JUN 2023
Assets			
Fixed assets			
Tangible fixed assets			
Equipment, tools, fixtures and fittings	0	0	0
Total fixed assets	0	0	0
Current assets			
Accounts receivable - trade	5,538	2,974	4,056
Other current receivables	4,828	8,823	3,989
Prepaid expenses and accrued income	6,640	3,363	4,362
Total current receivables	17,006	15,160	12,407
Cash and bank balances			
Cash and bank	3,949	5,072	11,577
Total current assets	20,955	20,232	23,984
Total assets	20,955	20,232	23,984
Equity and liabilities			
Equity			
Share capital	1,218	1,218	1,218
Share premium reserve	133,528	133,528	133,528
Other capital, translation differences and result for the period			
Other capital, translation differences, result	-120,947	-133,922	-149,409
Equity attributable to owners	13,798	823	-14,664
Total equity	13,798	823	-14,664
Non current liabilities			
Long term loan	0	11,330	29,881
Current liabilities			
Accounts payable - trade	1,550	1,566	1,150
Other current liabilities	1,764	2,021	2,049
Accrued expenses and deferred income	3,843	4,493	5,567
Total current liabilities	7,157	8,080	8,767
Total equity and liabilities	20,955	20,232	23,984

GROUP CHANGES IN EQUITY	SHARE CAPITAL	OTHER PAID-IN CAPITAL	RETAINED EARNINGS	TOTAL EQUITY
Starting balance 2022-12-31	1,218	133,528	-133,922	823
Net income for the period			-15,487	-15,487
Ending balance 2023-06-30	1,218	133,528	-149,409	-14,664

GROUP CASH FLOW STATEMENT (KSEK)	H1 2022	H2 2022	H1 2023	L12M
Operating activities				
Operating result	-13,737	-12,646	-14,185	-26,831
Issue costs	0	0	0	0
Adjustment for depreciation	0	0	0	0
Paid interest	0	0	0	0
Cash flow before working capital movements	-13,737	-12,646	-14,185	-26,831
Change in trade receivables	-924	2,564	-1,082	1,482
Change in current receivables, accrued income	2,167	-718	3,835	3,117
Change in trade payables	365	16	-416	-400
Change in current liabilities, deferred income	-1,347	907	1,103	2,010
Cash flow from operating activities	-13,476	-9,877	-10,745	-20,622
Investing activities				
Acquisition of tangible assets	0	0	0	0
Acquisition of subsidiaries	0	0	0	0
Cash flow from investing activities	0	0	0	0
Financing activities				
Proceeds from loans	0	11,000	17,250	28,250
Repayment of loans	0	0	0	0
Proceeds from issues of shares and warrants	17	0	0	0
Cash flow from financing activities	17	11,000	17,250	28,250
Cash flow of the period	-13,459	1,123	6,505	7,628
Cash at the beginning of the period	17,409	3,949	5,072	3,949
Exchange rate differences, other effects	-1	0	0	0
Cash and equivalents at period end	3,949	5,072	11,577	11,577

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 BFNAR 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

The number of outstanding shares amounts to 30 438 242. At the end of June 2023, three programmes of long-term stock options ("warrants") were outstanding, running until the end of 2023, 2004 and 2025 respectively and all of which with a strike price of SEK 20.60, to 2.8 million (corresponding to a maximum dilution rate of 8.4%).

Share Data

At end of period	31 Dec 2021	30 Jun 2022	31 Dec 2022	30 Jun 2023
Number of shares (000s)	30,438	30,438	30,438	30,438
Number of 2023 warrants (000s)*	985	985	985	985
Number of 2024 warrants (000s)*	965	990	990	990
Number of 2025 warrants (000s)*	0	855	855	855
Share price at end of period (SEK)	8.0	5.4	1.6	1.1
Full time employees	61	60	61	56

*Strike price at SEK 20.60, exercisable in Sep-Dec 2023, 2024 and 2025

Development of the number of shares outstanding

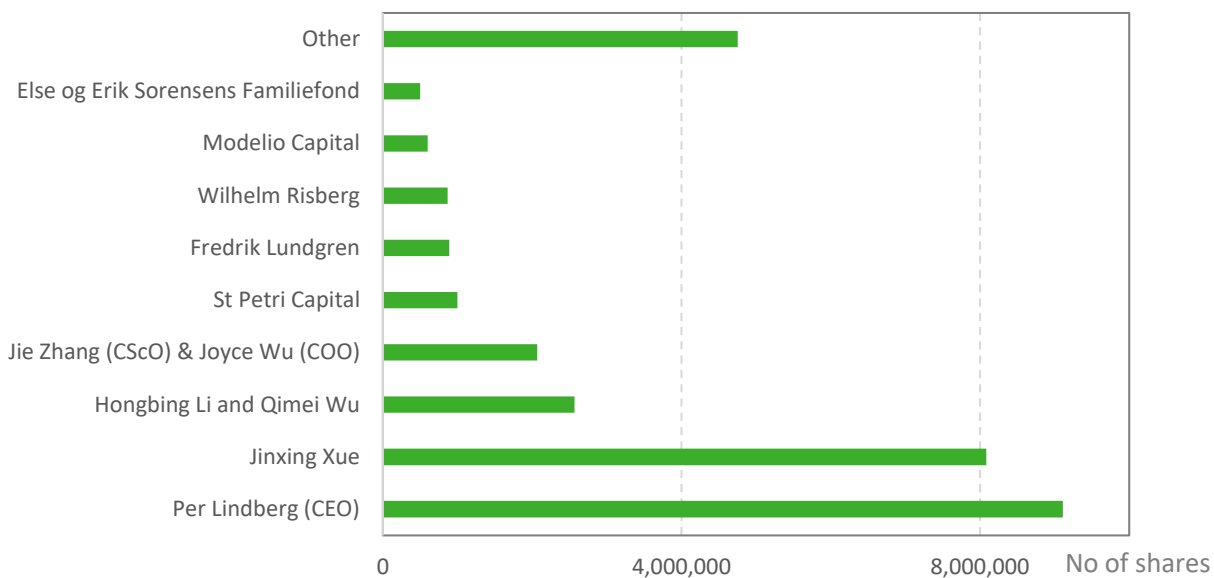
Number of Shares	Event	New Shares	Total Number	Price/share	Value
Mar-18	Pre-listing	NA	14,098,394	NA	NA
Jun-18	Listing	6,017,418	20,115,812	SEK 10.30	61,979,405
Oct-20	Set-Off Issue	4,022,430	24,138,242	SEK 7.92	31,857,646
Sep-21	Directed Issue	3,400,000	27,538,242	SEK 8.20	27,880,000
Oct-21	Set-Off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

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 has 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 and subsequently 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 carried out in September/October 2021.

Ownership structure at the end of June 2023

Shareholders as of 30 June 2023*	No of shares	Ownership	Residence
Per Lindberg (CEO)	9,109,000	29.9%	Sweden
Jinxing Xue	8,084,887	26.6%	New Zealand
Hongbing Li and Qimei Wu	2,624,070	8.6%	China
Jie Zhang and Joyce Yuhua Wu	2,067,996	6.8%	UK
St Petri Capital	1,000,000	3.3%	Denmark
Fredrik Lundgren	890,205	2.9%	Sweden
Wilhelm Risberg	865,403	2.8%	Sweden
Modelio Capital	600,000	2.0%	Sweden
Else og Erik Sorensens Familiefond	500,000	1.6%	Denmark
Hui Song (CTO)	271,449	0.9%	UK
Other	4,425,232	14.5%	
Total	30,438,242	100.0%	

*At 30 June 2023, 2.83 million warrants, exercisable at SEK 20.60 were outstanding



At the end of June 2023, nearly 38% of the total number of shares were held by members of senior management, led by the CEO at 29.9% and the three founders of the company (the Chief Scientific Officer, the Chief Operating Officer at a combined 6.8% and the Chief Technology Officer at 0.9%). In addition, the Board of Directors directly represents another 8.6%. Warrant programmes could result in further increases should the strike price be reached. The vast majority of shareholders, more than three quarters, are resident in Europe, including the United Kingdom.

Comments to 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 administrative expenses relate to members of the Board, the Chief Executive Officer CEO as well as other costs required to operate the NASDAQ First North Company in accordance with applicable rules.

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 change in equity is caused by net profits or losses realised, net of infusion of cash where applicable.

PARENT COMPANY INCOME STATEMENT (KSEK)	H1 2022	H2 2022	H1 2023
Operating income			
Net sales	2,950	3,264	4,408
Cost of sales	0	0	-135
R & D costs	-653	-653	-672
Administration costs	-2,431	-2,284	-2,379
Operating income	-134	327	1,223
Financial income and expense	17	-330	-1,301
Income before taxes	-117	-3	-78
Net income for the period	-117	-3	-78

PARENT COMPANY BALANCE SHEET (KSEK)	30 JUN 2022	31 DEC 2022	30 JUN 2023
Assets			
Non current assets			
Receivables from Group Companies			
Shares in subsidiaries	3,396	3,396	3,396
Total investments	3,396	3,396	3,396
Current assets			
Receivables from Group Companies	130,862	142,345	162,059
Other receivables and prepayments	99	153	202
Cash and bank balances	303	95	856
Total current assets	131,264	142,591	163,117
Total assets	134,660	145,986	166,513
Equity and liabilities			
Restricted equity			
Share capital	1,218	1,218	1,218
Non-restricted equity			
Share premium reserve	133,528	133,528	133,528
Retained earnings	-1,413	-1,530	-1,533
Net income	-117	-3	-78
Total non-restricted equity	131,998	131,995	131,917
Total equity	133,216	133,212	133,134
Current liabilities			
Accounts payable - trade	49	0	0
Other payables	189	189	189
Accrued expenses	1,206	1,255	3,309
Total current liabilities	1,444	1,444	3,498
Loan	0	11,330	29,881
Total liabilities	1,444	12,774	33,379
Total equity and liabilities	134,660	145,986	166,513

PARENT COMPANY CHANGES IN EQUITY KSEK	SHARE CAPITAL	OTHER PAID-IN CAPITAL	OTHER EQUITY	TOTAL EQUITY
Starting balance 2022-12-31	1,218	133,528	-1,533	133,212
Net income for the period			-78	-78
Ending balance 2023-06-30	1,218	133,528	-1,611	133,134

PARENT COMPANY CASH FLOW STATEMENT (KSEK)	H1 2022	H2 2022	H1 2023
Operating activities			
Operating income	-134	327	1,223
Issue costs	0	0	0
Interest received	0	0	0
Interest paid	0	0	0
Cash flow before working capital movements	-134	327	1,223
Change in current assets	-10,682	-11,537	-19,763
Change in current liabilities	-536	456	2,054
Change in other liabilities	0	-536	0
Cash flow after working capital movements	-11,351	-11,290	-16,486
Financing activities			
Proceeds from issue of shares and warrants	3	0	0
Proceeds from loan	0	11,000	17,250
Loan interest	0	0	0
Cash flow from financing activities	3	11,003	17,250
Cash flow of the period	-11,348	-287	764
Brought forward	11,638	303	95
Other effects	13	79	-3
Cash and equivalents at period end	303	95	856

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 emanates from R&D qualified tax credits offered by the UK government in support of advances of science and technology.

Depreciation: Ranplan does not capitalise its own, or, for that matter, 3rd 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 expenditures 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 almost 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.

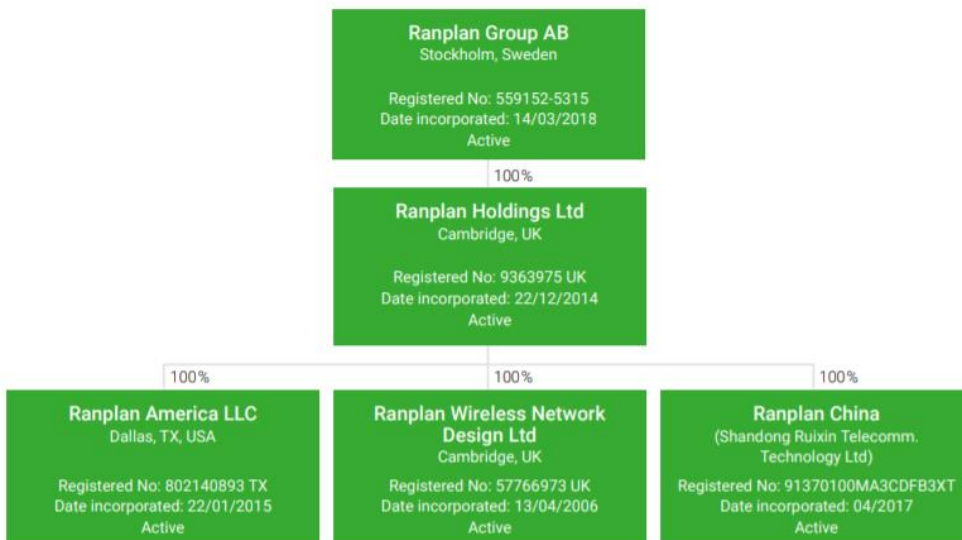
The purpose of an in-building wireless network is to provide enhanced network coverage and/or capacity when the existing outdoor network is not able to adequately satisfy the exacting requirements. Coverage may be poor due either to high penetration losses caused by the building structure or the latest 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 interim Report for the first half of 2023 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, should any differences be found. Stockholm, 24 August 2023

Stockholm 24 August 2023

Tomas Isaksson, Chairman of the Board

Jie Zhang, Board member

Wen Yang, Board member

Jon Ullmark, Board member

Per Lindberg, CEO

Other information

Auditor's review

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

2022 Annual General Meeting

The Annual General Meeting was held on 24 April 2023 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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Financial calendar – provisional dates in 2024

Friday 16 February 2024: Annual Statement for 2023

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