# >>< BeammWave

**Interim Report** 

January - September 2025

11/11/2025



## Highlights

2025

### **Third Quarter**

- Adam Andersson was appointed VP of Business Development and Sales at BeammWave
- BeammWave and Nitto Denko entered into a Joint Development Agreement
- Successfully completed a rights issue of SEK 65 million subscribed to 160.8%
- Successfully completed a directed issue of SEK 20 million bringing onboard 3 new strong owners
  - > The two issues gave the company net cash contribution of approximately SEK 79 million



## **Financial Information**

January – September 2025

	2025	2024	2025	2024	2024
Key Figures <sup>1</sup> (KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Net sales	0	0	2,593	1,066	1,066
Operating profit/loss	-7,575	-6,082	-16,347	-16,053	-23,202.347
Intangible fixed assets	53,900	42,695	53,900	42,695	47
Cash and cash equivalents	92,883	21,181	92,883	21,181	38,142
Cash flow	70,575	-9,230	54,741	-3,601	13,360
Equity	141,657	58,374	141,657	58,374	77,624
Total assets	147,903	64,945	147,903	64,945	87,348
Equity ratio (%)	96	90	96	90	89
Quick ratio (%)	1,505	338	1,505	338	411
Average number of outstanding shares during the period	35,139,859	22,254,808	32,754,020	17,095,771	18,679,281
Number of outstanding warrants at the end of the period	1,897,345	10,641,782	1,897,345	10,641,782	1,618,880
Earnings per share <sup>2</sup> (SEK)	-0.23	-0.27	-0.50	-0.93	-1.22
Number of employees end of period	15	12	15	12	12

<sup>&</sup>lt;sup>1</sup>Key figure definitions on page 14





<sup>&</sup>lt;sup>2</sup>Recalculated in accordance with split 10:1 och 100:1

### **Comments from Our CEO**

### Time to show what we're made of!

With customer demand and expectations building, it's now up to us to show that we can deliver not only a unique and proven concept, but also products ready for volume production.

**Financing** – We are truly encouraged by the strong support shown during our latest capital raise, where the combined rights and directed share issues were a great success. The rights issue was subscribed to 160.8%, and several new reputable investors joined through the directed share issue. Together, these transactions contributed approximately SEK 79 million net, providing us with the resources to accelerate our development toward high-volume production.

**Building the Team** – As we enter the industrialization phase, we are expanding our team and are delighted by the strong interest in joining BeammWave. We have already welcomed several new colleagues, a great mix of young talent and seasoned expertise. Our strong regional ecosystem, combined with BeammWave's growing reputation, creates a powerful foundation for attracting and retaining top talent.

**Market** – Market momentum remains strongest in Northeast Asia, where interest in 6G and new highfrequency bands continues to grow. These developments create exciting opportunities and further validate our conceptual approach to the high-frequency spectrum. At the same time, interest from both defense and satellite customers continues to grow steadily, and we are pursuing selected opportunities in these segments.

Products and Product Marketing – Customer interactions are smooth and efficient with mature marketing material, product specifications and customer documentation. Our product roadmap is being aligned with ongoing 6G development to ensure we remain future-proof. This also gives our current product generation a distinctive competitive edge, combining different generations in a highly cost-efficient manner.

Customers and Partners – Our current customers continue to push forward, and we are pleased to see them fully leveraging our technology. By utilizing key features such as Non-Line-of-Sight capability and our distributed architecture, they are gaining clear competitive advantages in both cost and performance. It is truly rewarding to see our young engineers thrive as they engage directly with customers, while continuing to impress major industry players with our deep and broad system expertise.



We are steadily expanding our list of prospects, and the introduction of new 6G frequency bands further reinforces that high-frequency spectrum is the future of wireless communication, and that digital beamforming is the only viable path forward. Our collective experience from decades in large multinational companies is a real advantage when it comes to identifying both blockers and triggers that move discussions ahead. In many cases, the key trigger is volume-qualified silicon; in others, it's a matter of redefining internal roadmaps, securing budgets, or building management conviction. Each relationship is unique, but trust, transparency, and consistent progress are key to long-term success.

Deep, specific, and confidential discussions have now replaced the more conceptual ones as we continue to demonstrate strong progress toward production-qualified silicon. Interaction levels with current customers are high, with a bidirectional exchange of information to the benefit of both parties.

We are signing a growing number of new NDAs, reflecting both the depth of engagement and the trust we are building with potential customers. Our next trip to Asia is planned for late November, where we will continue strengthening relationships and building momentum with key customers. We are also preparing for MWC 2026 in Barcelona, taking place March 2–5, where you will once again find us in the 4YFN section, the heart of innovation at the event.

What to Expect Next – I know we have kept a low profile during the last quarter and that many of you are eagerly waiting for news. We are now in a phase where we intend to take full advantage of our strong financial position, accelerating our industrialization with a fantastic and growing team, and renewed market energy fueled by global 6G discussions. We are sticking to the plan, maintaining a strong internal and customer focus, and we are already seeing great results.

Rest assured that updates will come. In the meantime, our priorities are crystal clear:

- Secure R&D schedules with high-volume quality as a top priority
- **Support current customers** as they move closer to product realization
- Onboard new talent to strengthen our organization Maintain customer momentum with a clear focus on key accounts
- **Expand into new markets** where our technology brings the greatest value
- Sustain 3GPP and patent progress to reinforce our long-term position

We stand stronger than ever, with great opportunities ahead, an amazing team, and a foundation built on trust, transparency, and consistent progress. The stars are aligned, now it's up to us.

### **Stefan Svedberg**

CEO, BeammWave AB



### **BeammWave in Brief**

### **BeammWave**

BeammWave AB is a deep-tech company with expertise within communication solutions for frequencies over 24GHz. The company was founded in 2017 by Per-Olof Brandt och Dr Markus Törmänen, based on a long-term research of mmWave and wireless technology at LTH (Lund University Faculty of Engineering). Today, BeammWave has a total of 25 employees and consultants. After several years of development work, the company announced their first product, an Advanced Development Platform (ADP1), at the end of 2023. This makes it possible to demonstrate the company's digital beamforming over the air. BeammWave's three customers together cover the applications BeammWave is targeting: smartphones, CPEs and base-stations. In addition, BeammWave has also a joint project with Saab, a European defense giant.

### The Need

BeammWave operates in the technical field of digital beamforming. Today, only so-called analog beamforming is used for the direction of the radio signal, which means that large parts of the direction problem are solved analogically with the help of specially designed components. There are two central challenges with the analog alternative: firstly, that this solution is space-consuming and inflexible, and thus difficult to integrate into small battery-powered consumer devices. Partly because it can only receive and transmit one signal at a time in a certain direction, which

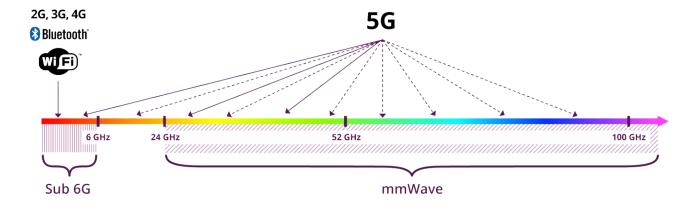
results in large performance losses. BeammWave aims to solve these challenges by offering a digital solution that is smaller, easier to integrate and with significantly higher performance. There is a strong consensus within the industry that digital will replace analog beamforming. What is not agreed upon is the timing when the technology will be ripe for this. Digital beamforming controls the direction of the radio signal in an advanced digital environment through software, rather than using large analog radio components, as is the case with analog beamforming. beamforming.

### The Market

The global use of 5G is expected to grow strongly in the coming years. The Ericsson Mobility Report (2024) predicts that the number of 5G subscriptions will increase to 5.6 billion by 2029.

Currently, there is a strong expansion of mmWave-based infrastructure in North America and Japan in particular.

This development is driven by the major operators in the US; Verizon AT&T and T-Mobile together the four largest in Japan; NTT DoCoMo, Softbank, KDDI and Rakuten. BeammWave attaches great importance to the dialogue with these operators. In addition to these, there is a wide range of consumer products, such as Apple's iPhone's (starting from model 12) as well as numerous other brands that include mmWave technology.



The performance of digital beamforming with less power and lower cost than analogue beamforming





50%

Higher throughput for end-users

Flexible design that is *easy* to integrate



### **Financial Comments**

### Scope of the report

This interim report covers the period January 1-September 30, 2025. Figures in parentheses indicate results for the corresponding period of the previous year. Unless otherwise stated, the amount is in KSEK.

#### **Revenue and Results**

Net sales for the third quarter amounted to SEK 0K (0) and for the period January-September 2,593K (1,066K). Capitalized development costs amounted to SEK 2,066K (2,807K) during the third quarter. For the period January-September, capitalized development costs amounted to SEK 6,565K (8,879K). The other operating income amounted to SEK 12K (68K) for the third quarter and SEK 4,099K (1,976K) for the period January-September. The other operating income mostly consisted of grants from the EU and Vinnova, as well as foreign exchange gains on operating items.

Operating expenses for the third quarter amounted to SEK 9,653K (8,957K) and SEK 29,603K (27,974K) for the period January-September. Expected to continue to slowly increase cost following the increase in customer engagements.

Of the operating costs, during the quarter, other external costs together with personnel costs accounted for the majority of SEK 9,620K (8,752K). For the period January-September, these costs amounted to SEK 29,177K (27,292K). This refers to costs for product development,

which relate to both consulting fees and salaries. Personnel costs during the quarter were SEK 4,477K (3,462K) and for the period January-September SEK 11,279K (9,964K).

The quarter's result before tax amounted to SEK -7,571K (-5,980K). For the period January-September, the result before tax amounted to SEK -16,260K (-15,858K).

### **Personnel and Organization**

The average number of employees in the company was at the end of the period, 15 (12).

#### Investments

The total investments in intangible assets, which are mostly development costs, amounted to SEK 2,066K (2,807K) during the quarter and to SEK 6,565K (8,879K) for the period January-September. The company has a total of SEK 53,900K (42,695K) in intangible assets and SEK 19K (70K) in tangible assets on the balance sheet date.

The company reports internally developed intangible fixed assets according to the capitalization model. This means that all expenses relating to the production of an internally developed intangible fixed asset are capitalized and written off during the asset's estimated useful life, provided that certain criteria are met.

### **Cash Flow**

The quarter's cash flow from current operations before changes in working capital amounted to SEK -7,558K

(-5,967K). Investments in intangible assets, capitalized work for own account, have affected the quarter's cash flow by SEK -2,066K (-2,807K) and SEK 6,565K (8,879K) for the period January-September.

During the quarter, BeammWave completed three share issues: a rights issue amounting to SEK 65 million, a directed share issue of approximately SEK 20 million, and a directed issue to guarantors corresponding to SEK 8.8 million (non-cash). In total, the company raised approximately SEK 85 million in cash before issue costs of about SEK 5.7 million, resulting in a net cash inflow of approximately SEK 79 million. The directed issue to guarantors was carried out as non-cash compensation for guarantee commitments and therefore did not affect the company's cash flow.

Total cash flow for the quarter amounted to SEK +70,575K (-9,230K).

### **Financial Position and Liquidity**

As of September 30, 2025, the equity ratio amounted to 96% (90), and equity totaled SEK 141,657K (58,374K). Cash and cash equivalents amounted to SEK 92,883K (21,181K) at the end of the period on September 30, 2025, representing an increase of SEK +54,741K compared to the beginning of the fiscal year. The company had no interest-bearing liabilities as of the balance sheet date.



### **Other Information**

### The Company

BeammWave AB is a Swedish public limited company with corporate ID number 559093-1902. The company was founded in 2017 to transform research from LTH (Lund University Faculty of Engineering) into an optimized and commercial mmWave solution for a mass market.

### **Accounting Principles**

This interim report has been prepared in accordance with the Swedish Annual Accounts Act and BFNAR 2012:1 Annual Report and Consolidated Accounts (K3). Applied accounting principles are unchanged from those used in the 2024 Annual Report, which can be found on the company's website. For further information, refer to the company's Annual Report for 2024.

The amounts are rounded to the nearest thousand (KSEK), unless otherwise stated. Due to rounding, figures presented in the financial statements may in some cases not exactly add up to the total and percentages may deviate from the exact percentages. Amounts in parentheses refer to values from the corresponding period in the preceding year.

### **Transactions with Related Parties**

Transactions with related parties have taken place to the same extent as before. For further information, refer to the company's Annual Report for 2024.

#### **Risks and Uncertainties**

The company's operations are exposed to a number of factors. Which may pose a risk to the company's operations and result. For a further description of risks refer to the latest Annual Report.

### **Estimates and Judgments**

In order to be able to prepare the financial reports, the Board and company management make assessments and assumptions that affect the company's results and position, as well as of the information provided in general.

Estimates and judgments are evaluated on an ongoing basis and are based on historical experience and other factors, including expectations about future events that are expected to be reasonable under prevailing conditions. Actual results may differ from assessments made. The areas where estimates and assumptions could entail a significant risk of adjustments in reported values for earnings and financial position in future reporting periods are primarily assessments of market conditions and thus the value of the company's fixed assets.

### **Management of Uncertainties**

When it comes to risks linked to the global situation, we are largely unaffected by the conflicts that are ongoing in different parts of the world. Energy prices, the weak Swedish krona and interest rates are also not a concern

for the company. The generally difficult situation on the financial market and the high rate of inflation may, if it persists, affect the company's opportunities for financing.

#### **Auditor's Review**

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

#### **Financial Calendar**

2026-02-13 Year End-report 2025 2026-04-22 Annual Report 2025 2026-05-08 Interim Report Q1 2026 2026-05-13 Annual General Meeting 2026 2026-08-12 Interim Report Q2 2026 2026-11-10 Interim Report Q3 2026

### For additional information, please contact:

Stefan Svedberg, CEO Phone: +46 (0)10-641 45 85 Mail: info@beammwave.com

The financial reports are available through BeammWave's website beammwave.com/investors/financial-reports/



The Board of Directors and the CEO declares that this interim report provides a true and fair overview of the company's operations, financial position and results and describes significant risks and uncertainties facing the company.

### Lund, November 11, 2025



**Svein-Egil Nielsen**Chairman of the Board



**Markus Törmänen** Board Member



**Märta Lewander Xu** Board Member



**Gustav Brismark** Board Member



**Paula Eninge** Board Member



**Fredrik Rosenqvist**Board Member



**Pelle Wijk** Board Member



**Stefan Svedberg** CEO



## **Financial Reports in Summary**

### **Income Statement**

Income Statement	2025	2024	2025	2024	2024
KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Net sales	0	0	2,593	1,066	1,066
Capitalized development expenses	2,066	2,807	6,565	8,879	13,519
Other operating income	12	68	4,099	1,976	2,728
	2,078	2,875	13,257	11,920	17,313
Operating expenses					
Raw materials and consumables	-	-168	-	-569	-804
Operating expenses	-5,143	-5,290	-17,898	-17,328	-25,59
Personnel cost	-4,477	-3,462	-11,279	-9,964	-13,96
Depreciation and impairment of tangible and intangible fixed assets	-13	-13	-38	-38	-5
Other operating expenses	-21	-24	-388	-74	-9
Operating profit/loss	-7,575	-6,082	-16,347	-16,053	-23,20
Result from financial items					
Other interest income and similar items	6	_	111	198	35
Interest expenses and similar profit and loss items	-1	102	-24	-3	-
Profit/loss before tax	-7,571	-5,980	-16,260	-15,858	-22,84
Income tax	-	-	-	-	
Profit/loss for the period	-7,571	-5,980	-16,260	-15,858	-22,84
Earnings per share (SEK)					
Earnings per share before and after dilution <sup>1</sup>	-0.23	-0.27	-0.50	-0.93	-1.2
Average number of shares before and after dilution	35,139,859	22,254,808	32,754,020	17,095,771	18,679,28

<sup>\*</sup>Recalculated in accordance with the 1000:1 split (10:1 and 100:1)



### Balance Sheet

Balance Sheet		2025	2024	2024
(KSEK)		Sept 30	Sept 30	Dec 31
ASSETS				
Intangible fixed assets	Note 1	53,900	42,695	47,335
Tangible fixed assets		19	70	58
Customer receivables		0	0	0
Other receivables		1,101	999	1,813
Cash and cash equivalents		92,883	21,181	38,142
TOTAL ASSETS		147,903	64,945	87,348
<b>EQUITY AND LIABILITIES</b>				
Equity		141,657	58,374	77,624
Accounts payable		1,608	2,486	3,557
Other liabilities		4,638	4,086	6,167
TOTAL EQUITY AND LIABILITIES		147,903	64,945	87,348
Changes in Equity		2025	2024	2024
(KSEK)		Q1-Q3	Q1-Q3	Full year
Balance at the beginning of the peri	iod	77,624	51,076	51,076
Profit/loss for the period		-16,260	-15,858	-22,847
Transactions with shareholders		80,293	23,156	49,396
Balance at the end of the period	I	141,657	58,374	77,624





### Cash Flow

Cash Flow	2025	2024	2025	2024	2024
(KSEK)	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Cash flow from operating activities					
Operating profit/loss	-7,575	-6,082	-16,347	-16,053	-23,202
Adjustments for items not included in cash flow	13	13	38	38	51
Interest paid/received	4	102	87	196	355
Tax paid	0	0	0	0	0
Cash flow from operating activitiess before changes					
in working capital	-7,558	-5,967	-16,221	-15,819	-22,796
Changes in working capital	771	-610	-2,766	-2,058	280
Cash flow from operating activities	-6,787	-6,577	-18,988	-17,878	-22,516
Cash flow from investment activities	-2,066	-2,807	-6,565	-8,879	-13,519
Cash flow from financing activities	79,428	154	80,293	23,156	49,396
Cash flow for the period	70,575	-9,230	54,741	-3,601	13,360
Cash and cash equivalents at the beginning of the period	22,308	30,411	38,142	24,781	24,781
Cash and cash equivalents at end of period	92,883	21,181	92,883	21,181	38,142

NOTES	2025	2024	2025	2024	2024
Note 1	Q3	Q3	Q1-Q3	Q1-Q3	Full year
Capitalized expenditure on development work and					
similar works					
Opening cost	51,834	39,888	47,335	33,816	33,816
Purchases	2,066	2,807	6,565	8,879	13,519
Closing accumulated cost	53,900	42,695	53,900	42,695	47,335



## **Key Figures**

### **Key Figures**

BeammWave's financial reports include financial key figures specified in current principles for financial reporting.

### **Operating Profit/loss**

Operating income minus operating expenses.

### **Equity Ratio**

Adjusted equity (equity and untaxed reserves less deferred tax) as a percentage of the balance sheet total.

### **Quick Ratio**

Current assets excluding inventory and work in progress as a percentage of short-term liabilities.

### **Average number of Outstanding Shares**

Weighted average of the number of shares outstanding during the period.

### **Earning per Share**

Results for the period through the average number of outstanding shares.



## **Share Capital and Ownership Structure**

The company's share capital amounts to SEK 4,446,502.590519 distributed over 44,988,867 outstanding shares of which 4,597,000 A shares and 40,391,867 B shares. Trading in the share takes place on the Nasdaq First North Growth Market. BeammWave's B shares are traded under the short name BEAMMW B and with ISIN code SE0016799068.

### **Stock Option and Employee Stock Option Programs**

The company has eight (8) ongoing stock option programs and employee stock option programs, with a total of 1,618,880 options. All programs refer to incentives and have been issued at market value, calculated according to the "Black Scholes" formula. If all outstanding warrants are exercised, the dilution effect will amount to approximately 5 percent.

For more information and complete conditions regarding the stock option programs and employee stock option programs, refer to the prospectus that the company issued in connection with the listing issue on page 37 and for others to the annual general meetings in 2023, 2024 and 2025 respectively.

Name	Purpose	Earliest redemption date	Finale dile date	Redemption : price (SEK)	Oustanding stock options / employee stock options	outstanding stock	Dilution in case of full subscription
KPO Anst-22	Incitament	2026-05-11	2028-06-30	30,48	50 63	50 630	0,16%
KPO Sty-22	Incitament	2026-05-11	2028-06-30	30,48	67 40	67 400	0,21%
Series 202301	Incitament	2027-06-01	2027-09-30	30,48	67 56	67 560	0,21%
KPO Anst-24	Incitament	2027-07-01	2027-12-31	0,10	303 62	303 620	0,95%
KPO Sty-24	Incitament	2027-07-01	2027-12-31	0,10	202 68	202 680	0,64%
TO Anst-24	Incitament	2027-07-01	2027-07-30	4,68	606 84	606 840	1,89%
KPO Anst-25	Incitament	2027-07-01	2027-12-31	0,10	472 12	9 472 120	1,47%
TO Anst-25	Incitament	2027-07-01	2027-07-30	4,68	126 49	5 126 495	0,40%
						1 897 345	5,67%



## **Ownership Structure**

### Largest owners as of September 30, 2025

Shareholders who are not registered as owners, but whose shares are placed in insurance and depository accounts, do not appear in this list.

Name (private/company)	Class A shares <sup>2</sup> (	Class B shares <sup>3</sup>	Total Capital	% of Capital	% of Votes
Nordnet Pensionsförsäkring		4 739 360	4 739 360	10,53%	5,49%
Concejo AB och Concejo Invest AB		4 107 671	4 107 671	9,13%	4,76%
Nowo Fund Management AB		2 329 285	2 329 285	5,18%	2,70%
Avanza Pension		2 054 371	2 054 371	4,57%	2,38%
Almi Invest AB och Almi Invest Syd AB	766 000	1 059 698	1 825 698	4,06%	10,10%
Markus Törmänen	1 367 000	100 000	1 467 000	3,26%	15,94%
Per-Olof Brandt	1 377 000	59 000	1 436 000	3,19%	16,01%
Stefan Svedberg1	592 000	516 334	1 108 334	2,46%	7,45%
Walerud & Partners AB och Bengt Walerud		1 052 838	1 052 838	2,34%	1,22%
LU Ventures AB		706 000	706 000	1,57%	0,82%
Lars Ahlman		662 828	662 828	1,47%	0,77%
I Love Lund AB (publ)		653 255	653 255	1,45%	0,76%
Other shareholders	495 000	22 351 227	22 846 227	50,78%	31,61%
Total*	4 597 000	40 391 867	44 988 867	100,00%	100,00%

<sup>&</sup>lt;sup>1</sup> Stefan Svedberg, CEO, by company and privately



<sup>&</sup>lt;sup>2</sup> 10 votes per class A share

<sup>&</sup>lt;sup>3</sup> 1 vote per class B share

<sup>\*</sup>With a total of 4,535 shareholders

## **Glossary**

### **3rd Generation Partnership Project (3GPP)**

Collaborative organization for different organizations and corporations, active in the mobile telecommunications space. The purpose of the organization is to create globally viable technical protocols and specifications for mobile telephony and thereby enable the use of one and the same cell phone virtually all over the world.

### **Advanced Development Platform (ADP1)**

BeammWave's development platform sold to customers for evaluation and integration.

### **Beamforming**

Beamforming means directing the radio energy in a specific direction. This contrasts with traditional radio communication, where radiation is sent in all directions. Think of a laser pointer versus a light bulb – both emit light, but if you want to illuminate an object at a great distance, you choose the laser pointer. It is easy to understand that it's important you must aim, illuminating next to the object does not help. Beamforming is usually done using several antennas.

### **Analog beamforming**

In analog beamforming, the signals from the different antennas are combined before being made digital. The industry has assumed that this is an easier and cheaper way.

### **Consumer Premises Equipment (CPE)**

Is the equipment that the operator places in the home of the consumer, to offer internet access without the use of cable or fiber.

### **Digital beamforming**

In digital beamforming, just as in its analog counterpart, several antennas are used and combined to get a stronger signal. But in the digital beamforming the combination happens AFTER the signals have been made digital. This means that the computations in the digital domain has more information and thus can achieve higher precision and performance.

#### **Fabless**

It means that the company designs and develops semiconductors but does not own its own manufacturing facilities (fabs = fabrication plants). Instead, the actual manufacturing is outsourced to third-party manufacturers, often referred to as "foundries". The business model is called Fabless and is commonly used by the semiconductor industry.

### Field-Programmable Gate Array (FPGA)

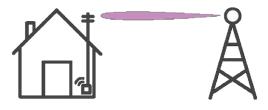
An integrated circuit, used in digital technology, that can be programmed or reprogrammed after it has been manufactured. An FPGA is designed to be flexible and adaptable, allowing users to configure its hardware functionality for a wide range of applications after it's been deployed.

### **Fixed Wireless Access (FWA)**

FWA is a type of wireless communication technology that provides high-speed internet access to fixed locations, such as homes or businesses, without needing traditional

wired connections like fiber or cable. Instead of relying on physical infrastructure like cables, FWA uses radio signals transmitted from a base station or cell tower to a receiver installed at the customer's location.

Installation will of course be much cheaper, while capacity, performance and running costs will be equivalent if 5G mmWave is used for this purpose.



Fixed Wireless Access



## **Glossary**

### Frequency Range 2 (FR2)

5G frequency bands above 24 GHz, also known as millimeter wave (mmWave).

### Frequency band/frequency range

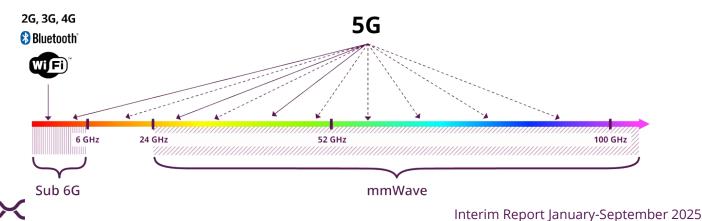
A frequency in terms of radio communication is simply expressed as the number of oscillations per second and is measured in Hertz. Since radio waves travel at the speed of light, a low frequency means a very long wavelength (as measured from peak-to-peak of the "waves"). FM radio, for example; has frequencies between 87.5 and 108 MHz, and there the wavelength is about 2-3 meters. For different applications such as television, radio, satellite, military, emergency services, cell phones, Wi-Fi, etc. not to collide and interfere with each other, it has been agreed to divide the available frequency range into different frequency bands and then decide how, for what and who may use which frequencies. The image below shows that until now we have almost exclusively used frequencies below 6GHz. This area is therefore very crowded and if you need more capacity, you must find it elsewhere.

#### mmWave

mmWave (millimeter wave) refers to a specific band, where the wavelengths are in the order of 10mm and below, of radio frequency spectrum, typically ranging from 24 GHz to 100 GHz. This high-frequency spectrum is known for its ability to carry vast amounts of data at very high speeds, which is why it is a key technology in next-generation wireless communications, particularly 5G networks. This is a large and untapped area and consequently there is a lot of capacity here. The short wavelength means that the radio waves do not reach very far but are quickly attenuated. This means that the mmWave range requires beamforming to be used for communication purposes

### Satellite communications (Satcom)

A broad term referring to communication systems that use satellites to transmit data, voice, or video signals.





## **BeammWave AB**

Org no 559093-1902
Forskningsbyn Ideon
223 70 Lund, Sweden
Phone +46 (0)10-641 45 85
info@beammwave.com
www.beammwave.com