



Radio Innovation Sweden AB (publ)

Memorandum

2021-06-15

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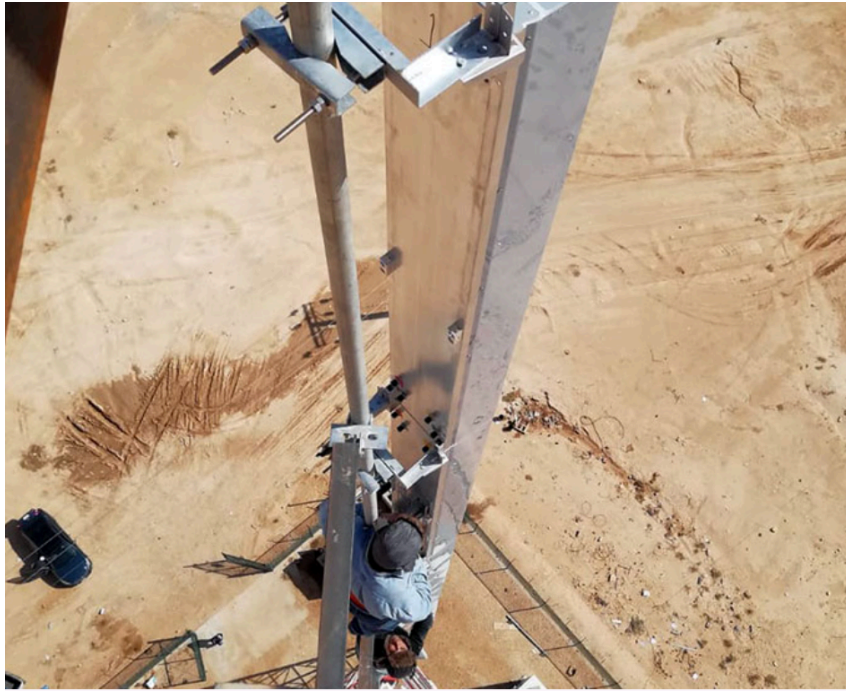
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THE NEW ISSUE

Letter from the CEO

RI's journey towards digital inclusion has now taken us to the next phase. As our company has grown, so has our belief in RI's superior technology, and the vision for providing the world with affordable mobile internet – thus eliminating digital divide and bridging the coverage gap in country side areas all around the world.



It was a year of a global pandemic, a global recession, unprecedented government actions, turbulent elections, and deeply felt tensions around the world. It was a year in which each of us faced difficult personal challenges, and a staggering number of us lost loved ones. And it was a time when companies discovered what they really were and, sometimes, what they might become.

As I write this letter, we continue to navigate a global pandemic, a hard OPEX and CAPEX stop from our customers, challenges in financing, cutting burn rate with 50% and much more. This has been a defining moment for RI and our vision.

To capitalize on today's greatest changes and to identify emerging trends, innovation is more essential than ever. We are now confident that our disruptive antenna solutions have been successful in several markets around the world. During the past year we have successfully executed several PoC's around the world, and also opened up new markets in Latin America.

We now hope that the ongoing Rights Offering will give Radio Innovation the boost needed to be more aggressive in sales and marketing.

We are a global company and given the cash injection our goal is to recruit the best talents from all over the world.

We are a global company. With the capital injection, we aim to significantly increase our market presence, and aggressively pursue sales and marketing. In parallel with this, we want to recruit the best talent available in the world and with their help build a team that will be able to give us and the world the next generation of antenna solutions.

Finally, I want to thank the entire Radio Innovation team for their fantastic work, the board for their support and all of the shareholders and investors who have showed continued confidence in the company and in me. Now it's time for the start of a new and exciting period.

Stockholm

June 16, 2021

The Offering

TERMS FOR THE SHARE ISSUE

On June 15, 2021, the Board of Directors, with the support of the authorization from the General Meeting on April 23, 2021, decided on a rights issue of a maximum of 500,000 ordinary shares. The issue price amounts to SEK 20 per share.

Existing shareholders in the Company have a preferential right to subscribe for shares in relation to the number of shares previously held by the holder.

Shares that are not subscribed for on the basis of subscription rights shall primarily be allocated to shareholders (see ongoing share issue to new shareholders and conversion of convertible loans below) whose shares have not yet been registered and therefore are not covered by subscription rights. . Secondly, allotment shall take place to those who have applied to subscribe for additional shares in relation to the number of subscription rights each exercised for subscription. Thirdly, allotment shall take place to others who have registered for subscription without the support of subscription rights in relation to the number of subscribed shares and to the extent that this cannot be done by drawing lots.

OVER-ALLOTMENT OPTION

To cover a possible over-allotment in connection with the Offer, the Board has undertaken to issue a further maximum of 100,000 new shares corresponding to SEK 2,000,000 through a directed new issue, with the same terms as the Rights Issue but with deviation from the shareholders' preferential rights. The price for shares in the Over-allotment Option will be the same as the Offer Price, i.e SEK 20 per share.

SUBSCRIPTION PERIOD

Subscription period is June 16 to July 16 2021. Subscription with preferential rights takes place by payment no later than July 16, 2021.

Subscription without preferential rights can take place during the same period, June 16 to July 16.

CHANGE IN SHARE CAPITAL AND NUMBER OF SHARES AND DILUTION

Each issued share has a quota value of SEK 1 per share. The rights issue means that a maximum of 500,000 shares may be issued. The share capital, upon full subscription in the Rights Issue, will increase by a maximum of SEK 500,000 from SEK 11,764,612 to a maximum of SEK 12,264,612, corresponding to a dilution effect of 4.1 percent of the total number of shares and votes in the Company. Furthermore, upon full exercise of the Over-allotment Option, the share capital may increase by a maximum of SEK 100,000 from SEK 12,264,612 to a maximum of SEK 12,364,612, which corresponds to a dilution of an additional 0.8 percent of the total number of shares and votes in the Company.

ONGOING SHARE ISSUE TO NEW SHAREHOLDERS

Prior to the current rights issue, the board of Radio Innovation decided to carry out a private placement to a number of strategic investors. At the time of issuing this information memorandum, the issue had not yet been finally completed. In the issue a total of maximum 1,500,000 shares can be issued.

The issue is carried out at the same subscription price, 20 SEK per share.

Binding and non-binding subscriptions at the time of publishment of this Memorandum amount to appr. 1,000,000 shares. If the maximum amount of shares will be subscribed, the number of shares in the company, before the current rights issue, will amount to 13,264,612 shares.

CONVERSION OF LOANS TO SHARES

Radio Innovation has two outstanding convertible loans with the total amount of SEK 8 371 288. One loan in the amount of SEK 2 980 588 matures in April 2021 and the second one in the amount of SEK 5 390 700 matures in November 2021. Radio Innovation has the right to redeem the loan earlier against a premium of 4% of the nominal amount.

The board of Radion Innovation decided on June 15 to offer holders of the convertible loans to convert the loan including accrued interest into shares in advance. The subscription price according to the convertible terms amounts to SEK 12 per share for both loans. The non paid interest amounts to SEK 543 484 and the premium for redemption in advance amounts to SEK 215 628. The offer includes an offer to convert the non paid interest and premium for early redemption at 20 SEK per share.

A full acceptance of the offer including the interest and premium would increase the number of shares by 735,563.

TOTAL NUMBER OF SHARES AFTER ALL ISSUES

If all share issues mentioned above will be fully subscribed and the over-alotment option used, the share capital will increase by a maximum of SEK 2,835,563 from SEK 11,764,612 to a maximum of SEK 14,600,175, corresponding to a dilution effect of 19.4 percent of the total number of shares and votes in the Company.

Background & Motive

Radio Innovation Sweden AB (RI) specializes in research and development, design, marketing, and sales of Super Antenna Systems (SAS™) and Super-Efficient Towers (SET™) for mobile cellular network operators and tower owners. Its primary focus is to deliver solutions for the countryside and rural areas, representing 70% of the population in most countries.

Our mission is to connect the last billion with affordable mobile internet. We achieve this by helping Mobile Network Operators (MNOs) to lower the average revenue per user (ARPU) to 1 USD.

Since 2012, RI has developed a product portfolio with a focus on 4G and 5G with the first commercial delivery in 2018. Now RI is facing a global expansion after carrying out a number of test installations with great potential value during 2020-2021. Estimated potential in the 8 installations that are under evaluation and where commercial discussions have or will be initiated shortly amounts to well over \$ 100 million.

In November 2020, RI was selected as one of 20 companies to be included in Facebook Accelerator: Connectivity. In January 2021, RI became the first Swedish company to be part of the Orange Orange Fab Accelerator.

To finance sales and marketing as well as continued product development during 2021 and 2022, RI is now carrying out a directed issue of up to SEK 30,000,000 and a rights issue of SEK 10,000,000 with an over-allotment option of SEK 2,000,000.

The goal is to make an IPO within 24 months at a target share price of USD 18-20.

Terms of Subscription

In the current share issue you are guaranteed an allotment pro rata according to your present shareholding. Send an email to nyemission@radioinnovation.net for information about how many shares you have the right to subscribe within the framework of the preferential right. You can also calculate it by dividing your holding by 11,764,612.

SUBSCRIPTION WITH PREFERENTIAL RIGHTS

Subscription for shares within the framework of the preferential right takes place by paying cash into Radio Innovation's issue account **6164-514 730 021** in Handelsbanken no later than **16 July 2021**. We also want a completed subscription form which you can find [here](#).

SUBSCRIPTION WITHOUT PRIVACY

You can also subscribe for more shares than you have a preferential right to. Allotment of shares in addition to the preferential right takes place in accordance with the principles stated above. Subscription takes place through the same [subscription form](#). Allocation decisions are sent by e-mail no later than five days after the end of the subscription period.

Risks

An investment in the Radio Innovation is associated with risk. Our operations are, and may be affected, by a number of factors that are not possible for us to fully or partially control.

These factors may have a negative impact on our operations, financial position and results in the future, or may cause the price of its shares to fall and as a result, investors may lose all or part of their investment. Some of the risks are linked to our company, while other risks have no particular connection with Radio Innovation.

Investors considering an investment in Radio Innovation should carefully analyze the risk factors described below, as well as other information in this Memorandum prior to an investment decision. The described risks are not reproduced in order of priority or any other special order, and other risks than those described can exist. The presentation of the risks does not claim to provide a comprehensive description, consequently, a full evaluation must include all the information referred to in this Memorandum combined with independent analysis.

There may also be risks and uncertainties that Radio Innovation is not currently aware of or deems to be immaterial that may prove to be material. The Memorandum contains statements about the future that may be affected by future events, risks, and uncertainties.

Radio Innovation's actual results may differ significantly from the results expected in the forward-looking statements to a significant extent. These risks include, but are not limited to, the risks described below and otherwise in the Memorandum.

RISKS RELATED TO THE COMPANY'S OPERATIONS AND MARKET

Radio Innovation has potential customers in a number of geographic markets. Changes in laws and regulations such as customs regulations, export regulations and other laws and regulations in countries where Radio Innovation is or will be active and where its products will be sold, may adversely affect Radio Innovation's operations, earnings and financial position.

DEPENDENCY ON KEY STAFF AND STAFF

Radio Innovation's future development is dependent on existing employees' knowledge, experience and creativity as well as Radio Innovation's ability to recruit and retain key personnel. If Radio Innovation would not succeed in this, it can have a negative impact on Radio Innovation's operations, results and financial position.

MARKET ACCEPTANCE RISKS

Radio Innovation has an innovative product and intends to continuously develop and launch new products on the market. There is always a risk that new products will not be received positively in the market or that competing products are perceived as more attractive, which can be negative.

COMPETITION

Radio Innovation's market future position is based on a unique technology. There is a risk that some other company will launch one competing technology that is better and /or cheaper than that of Radio Innovation. This could change the conditions for the expansion which may adversely affect the Company's operations, results and financial position.

LEGAL RISKS AND INTELLECTUAL PROPERTY RIGHTS

Radio Innovation has 2 IPR registrations on patent pending. Radio Innovation's growth and success depend on developed technologies whereby patent rights constitute a certain part. There is a risk that there are weaknesses or problems with patent rights or that the Company infringes other patents.

It cannot be ruled out that such problems can only be remedied at significant cost or risk Radio Innovation's future. It's possible that applications encounter opposition and thereby will not be registered. Intrusion into Radio Innovation's intellectual property rights or Radio Innovation's infringement of other companies' intellectual property rights could impair competitiveness or otherwise harm Radio Innovation's operations. This may prove necessary for Radio Innovation to initiate legal proceedings to defend intellectual property rights. Such lawsuits could be burdensome and costly and there is no guarantee that Radio Innovation wins such processes.

Radio Innovation strives to protect all intellectual property through, inter alia, confidentiality agreements with employees, consultants and other partners. However, there is no guarantee that such agreements will protect against publication of confidential information. In addition, can Radio Innovation's trade secrets otherwise be known or developed independently of competitors, which in addition to intrusion into intangibles rights may adversely affect Radio Innovation's operations, earnings and financial position.

FINANCING AND LIQUIDITY RISKS

Financing risk refers to the risk of refinancing overdue loans becomes more difficult or costly and that Radio Innovation thus finds it difficult to fulfill their payment obligations. Liquidity risk refers to the risk not being able to fulfill payment obligations before they fall due.

It cannot be ruled out that Radio Innovation may need additional capital injections in addition to the Offer until the business achieves a positive result and cash flow. There is no guarantees that such a capital injection can be raised and nor that it can be done on favorable terms. Would some of these risks are realized, it may adversely affect the Radio Innovation's operations, results and financial position.

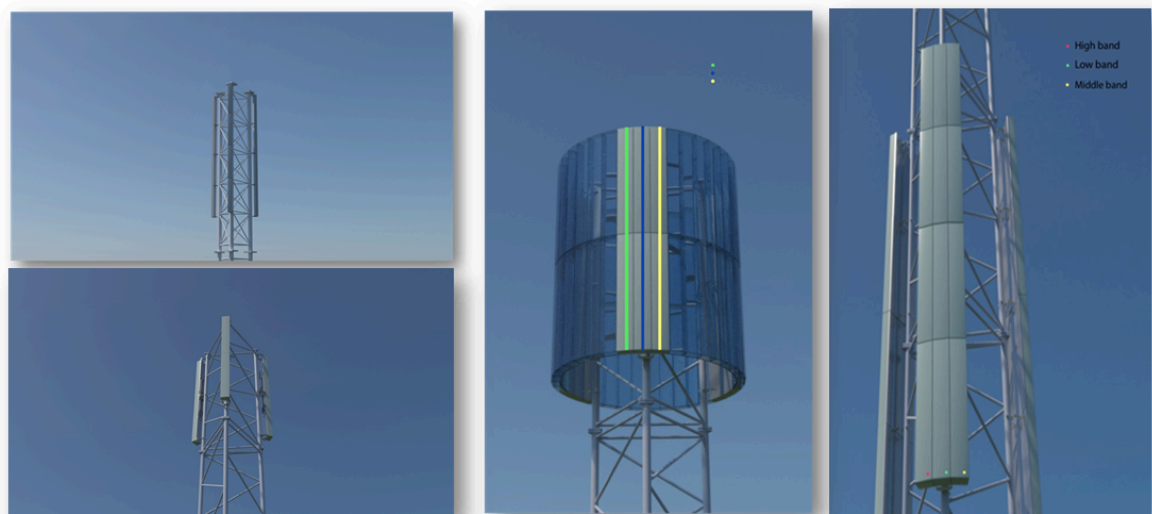
Investment Agreements

THE BUSINESS

Products & Services

SUMMARY

Radio Innovation (RI) is developing a passive antenna technology for mobile networks which represents new state-of-the-art by being the only antenna technology that can connect people that currently have no access to the internet – in an affordable way. Building on lifetime wireless communication innovation experience, the performance of our Super Antenna Technology (SASTM) redefines everything mobile networks are capable of until now. Superior strength and efficiency of SAS-equipped sites bring substantial economic advantages to both our customers and end-users. Configuration and optimization of radio access networks with fewer base stations is easier and cheaper, the frequency spectrum is used more efficiently, and each station may accommodate several operators on equal conditions.



HISTORY

Our antenna is the result of lifetime experience of pioneers in Telecommunications, as innovator and wireless communication pioneer; key stakeholders are owner of Radio Innovation Sweden AB. The first version of the product was prototyped in 2014, and we have been improving the technology ever since.

THE TECHNOLOGY

Our Super Antenna System™ (SASTM) antenna is a 100% passive antenna containing no electronics, designed to maximize performance and energy efficiency. All parts are made from aircraft graded aluminum and high precision manufactured.

Our antennas supports 4G MIMO4-8 and 5G as well as previous mobile standards 3G, 2G, CDMA, FDD, TDD.

- provides 10-125 times bigger coverage of signal,
- supports up to 144 Gbit/s capacity per site over 1,600 km² (peerless coverage)
- generates 75-95% lower costs to deliver 4G LTE than any comparable alternative.

SASTM is the only antenna technology that can connect the remaining 2/3 of the world's population to the Internet - the backbone of the knowledge economy. This aligns well with worldwide efforts to making Internet accessible to wider masses of people by reducing cost of data transfer services and reducing the amount of data transfer need. Governments and telecoms worldwide are focused on building out infrastructure that makes signal travel further without need for so many cell phone towers. The IT industry already works on data cache technology and improved data compression.

CURRENT PRODUCT OFFERING

The technology, branded as Super Antenna Systems (SAS)[™], is completed and qualified through tests and demonstration in operational environment, but not yet proven in long term operations. The design requires further development for competitive manufacturing.

Our current product offering includes antenna systems for new sites and for existing site upgrades, offered for frequency bands in the 790 up to 2,690 MHz spectrum. The propagation characteristics of radio waves makes higher frequency bands more interesting for our technology applications - as the signal may reach further.

The system has a cylindrical shape with 36-60 sectors (rooms), each consisting of 8-18 elevations formed by individual aluminum antenna panels. Each antenna room is enclosed in a weatherproof plastic radome, transparent for radio waves. Our SAS[™] arrays are available with 8, 4, 2 or 1 floor. By adding floors gain and capacity is increased. We also provide complementary equipment - towers, sourced from external provider.



Figure 1. Super Antenna SystemTM: individual antenna panels (a) and the system mounted on a telecommunications tower during trial in India.

Our groundbreaking product is the individual antenna panel, completely passive, made of aluminum - without internal cables and electronics. Using only aluminum makes the antenna extremely efficient with very low losses on interconnections. By mounting multiple antenna arrays and stacking them on top of each other, we are able to provide 360° of very efficient signal coverage capacity and data rate (see Figure 2) for the radio units of mobile network operators. What is more, the 36 antenna rooms may host equipment of multiple Mobile Network Operators (MNOs) on the same mast level, providing egalitarian access to shared mast infrastructure. RI Antenna Systems are optimized for infrastructure sharing between multiple operators.

Mobile telecommunication infrastructure fitted with our antennas enables MNOs to offer more affordable services: at a fraction of the cost that is the case today. Their customers are receiving much higher level of service, and at a fraction of the cost to produce of alternative technologies.

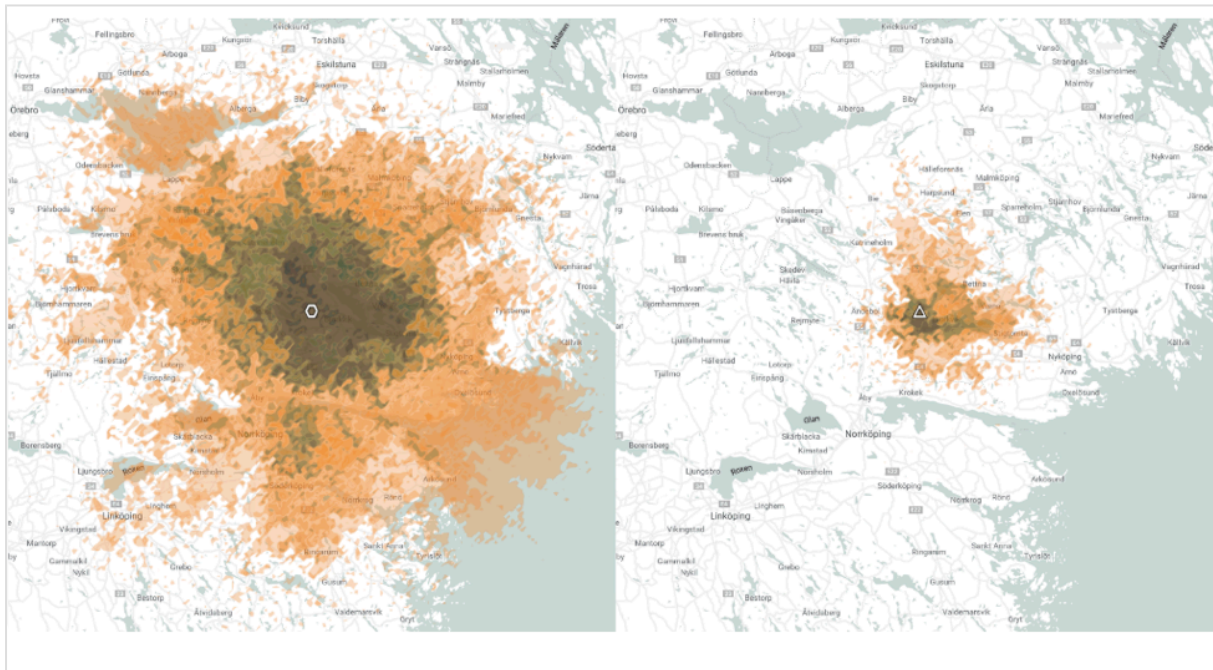


Figure 2. Superior site coverage is illustrated in this comparison of Radio Innovation 118 m site 32 dBi 18-sector antenna (48dBW 821MHz) with a normal 50m site 18 dBi 3-sector antenna (30dBW 821MHz) - outside Stockholm, Sweden.

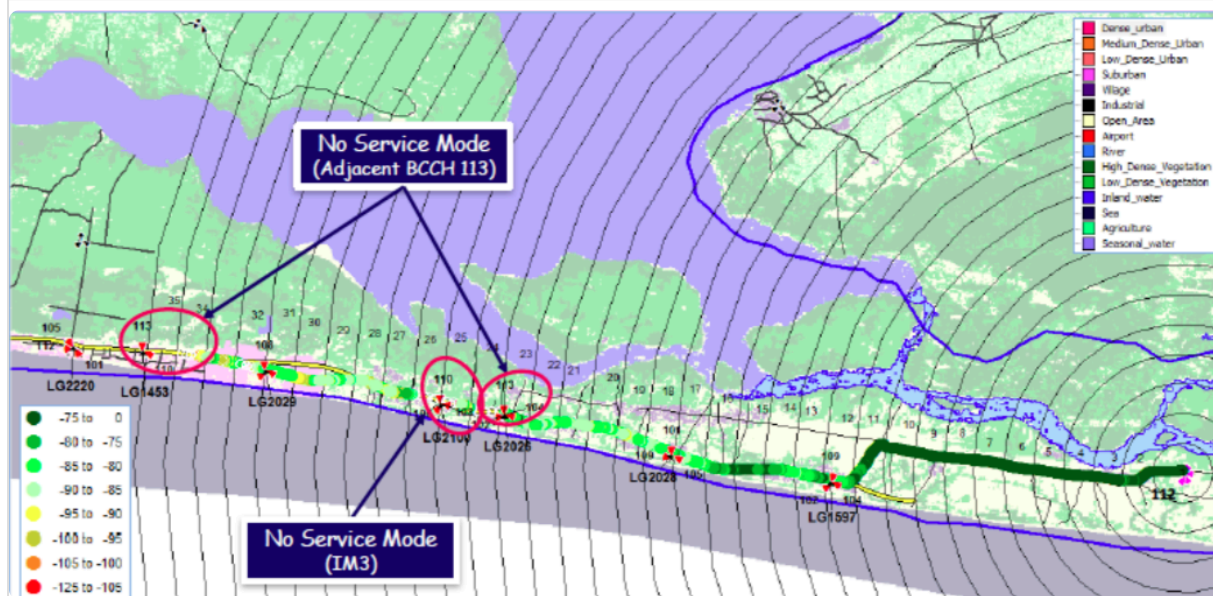
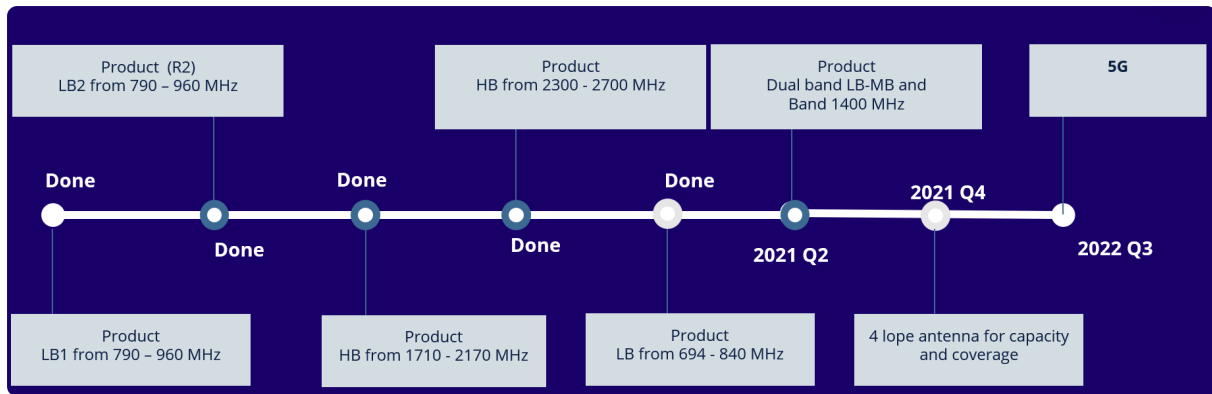


Figure 3. Excellent results demonstrated in an 8-panel antenna drive test for MTM, 2019.

1800 MHz antenna system on a 108 m tower. 30 dBi gain. Test drive route is directly on antenna boresight. Clutter is dominantly OPEN (<11km), Villages & Low Dense Vegetation (<29 km) and Suburban beyond. No Service Modes (NSM) are caused by adjacent channel and intermodulation (IM3) interference. Coverage summary: RSSI @ -75 dBm <11km, -85 dBm ,16 km, -90 dBm up to 30 km.

PRODUCT ROADMAP

Radio Innovation intention is to have a 5G antenna available in Q3 2022.



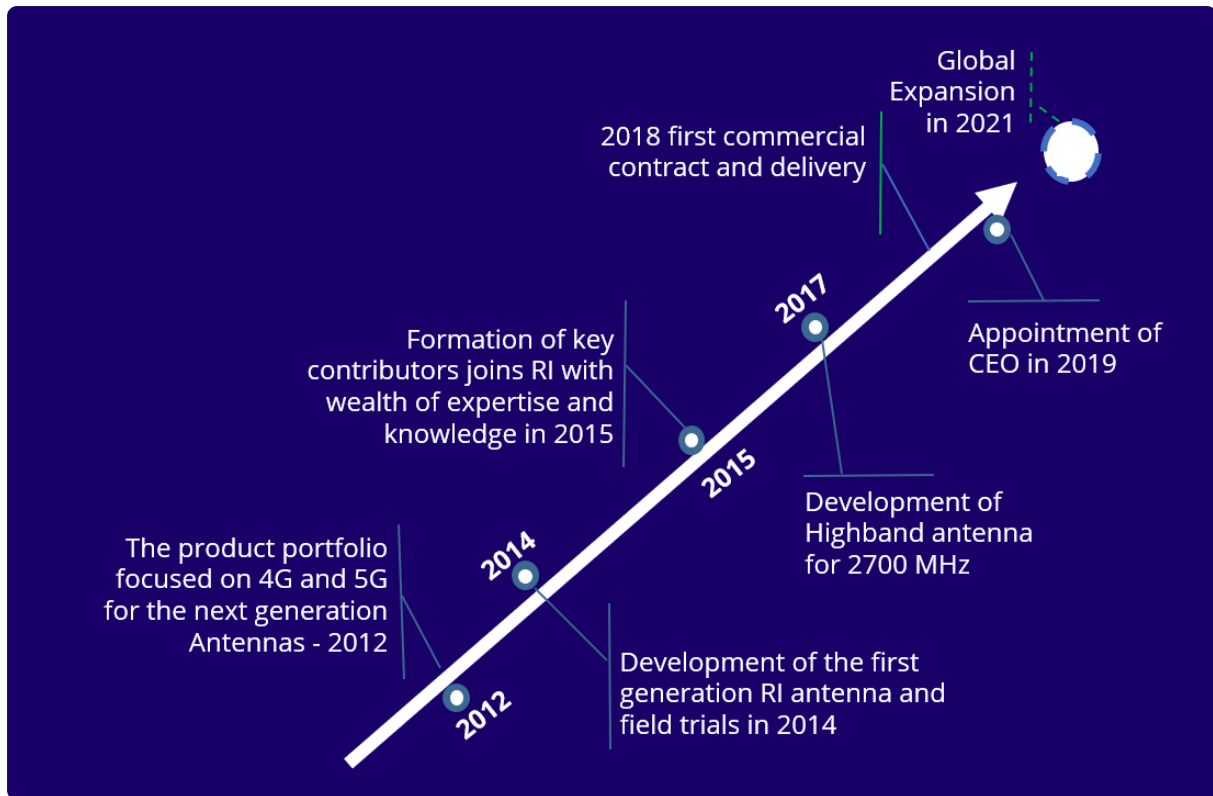
History & Key Milestones

HISTORY

Our antenna is the result of lifetime experience of pioneers in Telecommunications, as innovator and wireless communication pioneer; key stakeholders are owner of Radio Innovation Sweden AB. The first version of the product was prototyped in 2014, and we have been improving the technology ever since.

Changes in company management and obtaining support of the Swedish Export Agency have let us engage in early proof-of-concept trials with mobile operators in Nigeria, and then India, resulting in shipping our first commercial order in 2017.

KEY MILESTONES



Vision & Goal

BRIDGE THE DIGITAL GAP WITH AFFORDABLE MOBILE CONNECTIVITY

We are driven by a vision that is about giving the last billion access to high-speed internet.

So we have taken on a challenge and a mission;

- We at Radio Innovation are on a mission to “connect the last billion with affordable mobile internet” ;
- We will strive to eliminate the digital divide;
- and focus on digital inclusion

Therefore, we say *Affordable Mobile Internet and digital literacy to Everyone Everywhere*

Strategy & Operations

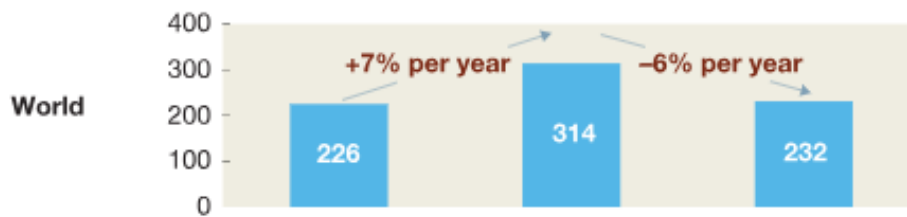
The value of total addressable market (TAM) for Radio Innovation product is calculated with top-down approach. The distributed antennas market has been segmented based on antennas usage. We identified five stakeholder groups that could potentially employ our solution:

1. Mobile Network Operators (MNOs),
2. Railway companies,
3. Tower companies,
4. Military and
5. Governments.

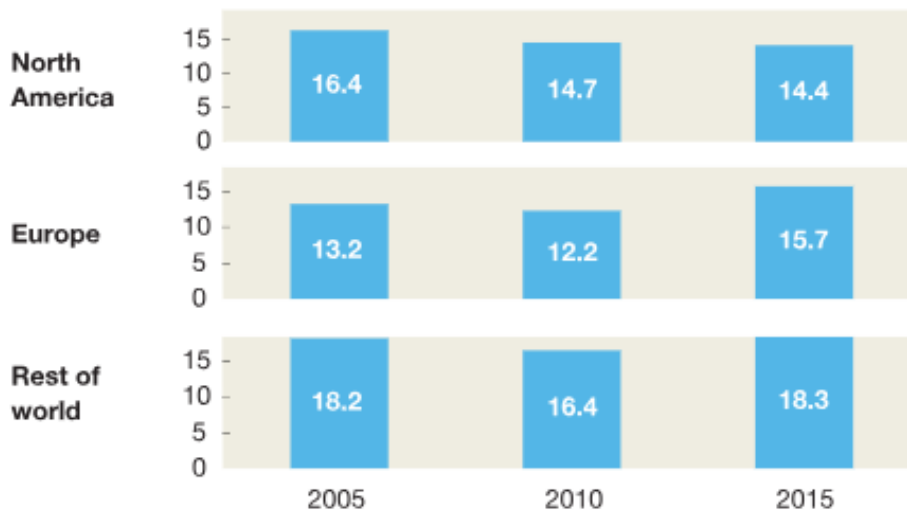
The value of those markets is established based on market insights, reports and knowledge of our management team. MNO is our primary group target because of high potential of the market, experience of our management team in the mobile industry and commercial character of this group.

Geographically, we classified the global distributed antenna system market into following regions: North America, Europe, Asia & Pacific, Middle East & Africa (MEA), and South America. Our focus are emerging markets, since MNOs there have the highest growing number of new subscribers. As of 2018 mobile broadband penetration is quickly approaching 100% in the developed markets – and 50% in the developing markets (GSMA, 2018).

Global industry cash flows (EBITDA – capital expenditures),¹ \$ billion



Capital-expenditure/revenue ratios for top telecom companies,² %



1. Mobile network operators (MNOs)

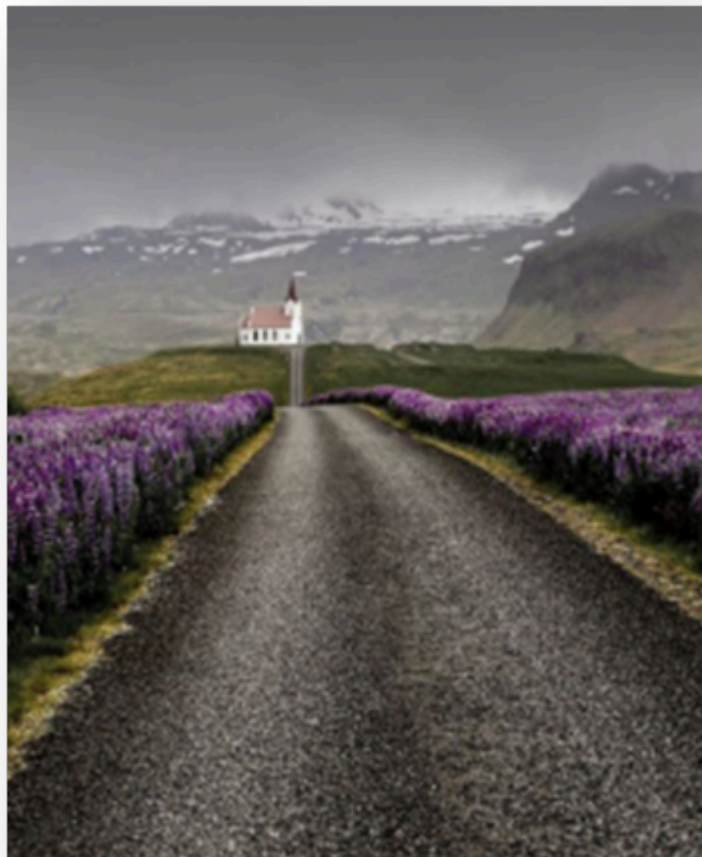
A Mobile Network Operator is a provider of [wireless communications](#) services. According to GSMA (2017) there are over 800 GSM licensed operators in 220 countries in the world. Those are exclusively the companies that operate a mobile network with a license using 2G, 3G and 4G technology. MNOs have become crucial to the development of most countries, providing important social and economic benefits. Amongst this competitive sector a number of operators have emerged, which can be described as regional leaders in terms of size and mobile subscriber base. Some of most the popular mobile network operators are China Mobile, Jio, Idea, Airtel, Aircel, Vodafone, BSNL, MTN, TataDoComo, Verizon, AT&T etc. The world's largest individual mobile operator by subscribers is China Mobile with over 500 million mobile phone subscribers (Statistica, 2018). According to GSMA, over 50 mobile operators have over 10 million subscribers

each, and over 150 mobile operators had at least 1 million subscribers. In 2018 there are already 5 billion unique mobile subscribers and it is predicted that this number will increase to 5.7 billion by the end of the decade.

RI's first antenna product for the low frequencies was delivered to our current customer. Work on the company's second product, higher frequencies, continued in 2017 and is ready for series production. The company has also entered into an agreement with one of the world's leading mast manufacturers for cooperation in the development, manufacture and delivery of masts and towers.

They have a global network of manufacturing partners and reach all mobile and mast operators worldwide with their offer. Our current activities are aimed at building reputation and creating first relations with our future customers, i.e. MNOs. We have successfully conducted 3 Proof of Concepts (PoC):

A demonstration plant was installed in Teracom's highest



altitude outside Norrtälje in 1Q 2017. The measurement results were very good and fully confirmed that the SASTM performance more than meets the expectations.

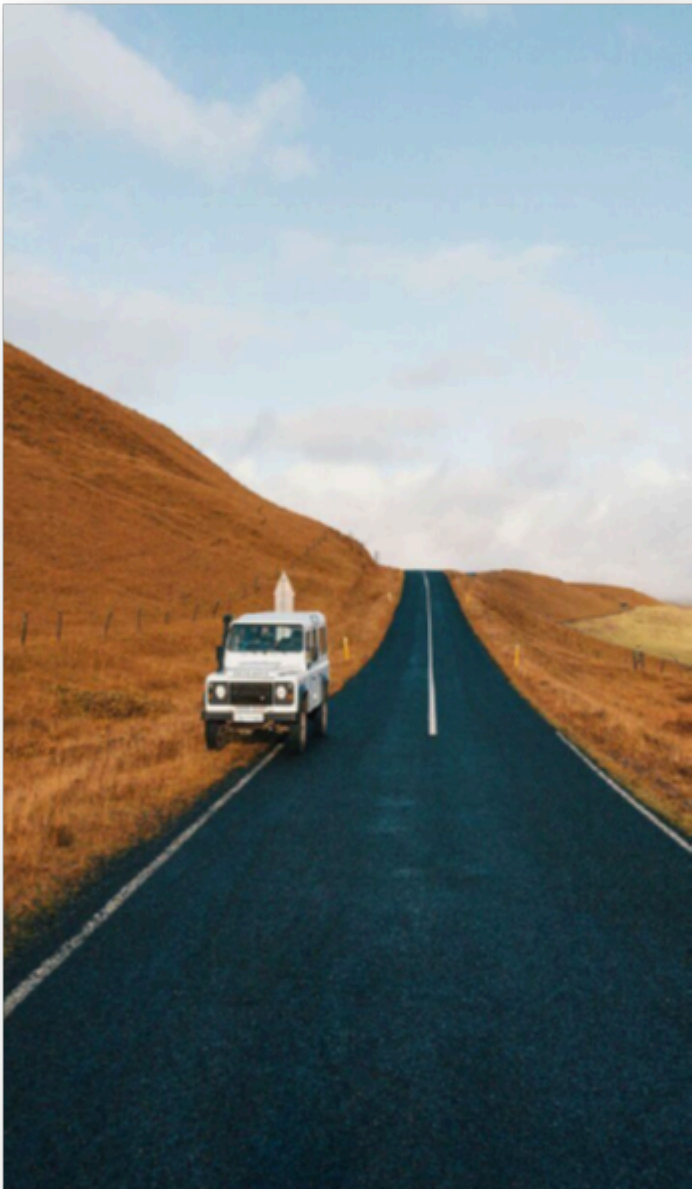
- We held a drive test of an 8-panel antenna for TydaComm in April 2017 in Lagos, Nigeria.
- PoC with JioReliance in India undertaken during Q1 and Q2 2018.

At present, we are working with MNOs in Sweden, Germany, Baltics, Africa and Chile to set up technology demonstrations on their networks in the near future.

CUSTOMER NEEDS

Increase revenue, cash flows and market capitalization — revenue and cash flow of MNOs dropped by an average of 6% a year since 2010 (McKinsey, 2016). Although consumption of mobile data boomed, companies responded by investing heavily in their wireless networks, even as subscriber growth slowed. As a result, the average ratio of capital spending to revenues has remained high, at around 15%.

Overcoming market saturation - operators in emerging markets have focused on building networks and customer acquisition. However, operators' profit margins and cash flow are increasingly squeezed as markets approach saturation, which drives the need for cost optimization and efficiency.



Increasing competitiveness - MNOs face the challenge of generating enough profits to recuperate their initial investments in spectrum licenses and network roll-outs, to cover the substantial recurring investments needed for new network technologies (4G & 5G) and to improve their service quality as demand for mobile data is growing very fast.

Reduction of operating expenses (OPEX) — mobile

networks, which are built using standard antennas and network planning rules, consist of thousands of base stations and transceivers. They rely on significant energy consumption and daily maintenance costings human, financial and time resources.

Making use of the new technologies - it has been estimated that the newest technologies (e.g. IoT, 4G and 5G) would let operators lower their capital expenditures by up to 40% — thus pushing these costs down to under 10% of revenues — and their network-operating expenses by a similar amount.

Reduction of capital expenditure (CAPEX) — with high cost of capital expenditure, profitability is achieved only in cities. Reducing capital expenditure levels, while preserving quality of service and opening new business horizons for operators is crucial to enable business development in regions with low population densities or low purchasing power.

Growing profitable customer base — the majority of new and potential customers live outside large cities: in suburbs, small towns, rural settlements, villages and other areas with very low customer density reaching, where standard antenna technologies become unprofitable. In such regions, MNOs become a preferred way to provide quality internet access.

TECHNICAL NEEDS

Scalable coverage — standard sites have limited coverage radius and area, restricting optimal usage of antennas capacity to regions with high customer density.

Scalable capacity — any mobile network must have safety reserves to accommodate future capacity increases when traffic grows.

Interference reduction — the ever-increasing usage of mobile services in cities and suburban areas leads to increased levels of harmful radio frequency interference.

Compatibility with future technologies — large capital investments should have long useful lives, and this requires their full compatibility with the newest technologies.

SASTM is designed to accommodate all requirements of new standards in the area of higher- speed data transmission, improved quality of service and exceptional ecological compatibility. Transition to a much smaller number of optimized base stations simplifies introduction of new platforms (3G, 4G) and makes configuration and optimization of radio access networks easier.

UNIQUE SELLING POINT

RI antennas ensure fast and profitable increase of customer base of MNOs, as well as rapid expansion of their geographical presence. Additionally, they provide a connection to less-densely populated and geographically scattered settlements. This is applicable not only to rural areas, but also to suburbs since qualitative and affordable mobile services are available mostly within the cities and other districts with high customer density levels.

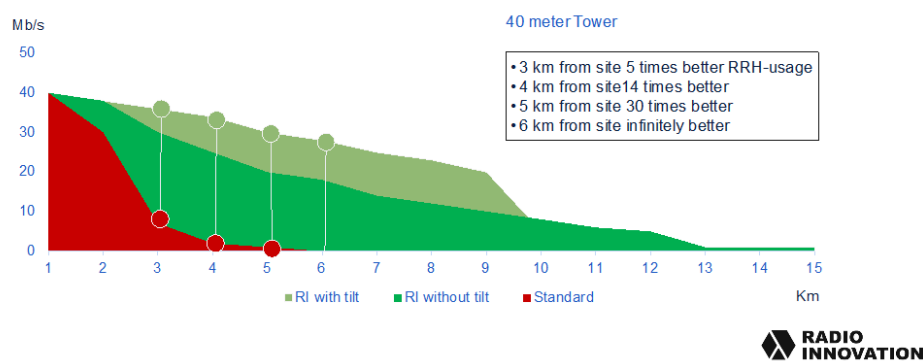


Figure. Comparison of antenna coverage distance [km, horizontal] and data transfer capacity ([Mb/s, vertical] during a field test in India, Q4 2020)

The unique selling point for our customers is covering same area with less antennas sites for lower price. A graph above shows the result of our Field Test performed in Q4 2020 in India. It proves that sites equipped with our antennas (green color on chart) have significantly wider reach with much higher capacity in comparison to a standard solution (red).

A Figure below presents key assumptions for covering an area of 250 km². With standards antennas, an operator would need 3 antennas (USD 800 each), but on 5 sites. With RI's antennas, it is enough to employ 12 antennas (USD 4,000 each) for the whole area.

Because of the yearly cost of maintenance, the total annual cost is 5 times lower for RI antennas. As a result, RI solution creates significant cost savings opportunity of USD 156,000 per year.



Cover 250 km² -key assumptions

Item	Standard	RI
CAPEX		
RRH	9 000	9 000
Antennas;		
Standard: 800x3	2 400	
RI System 4,000x12		48 000
Tower (45 meters)	70 000	70 000
Total CAPEX	81 400	127 000
Yearly OPEX per site		
Power and Managed Services	2 000	2 000
Rental of site or property	2 500	2 500
Transmission	24 000	24 000
Security and other OPEX	3 500	3 500
Total yearly OPEX	32 000	32 000
YEARLY COST TO COVER 250 km²	5 sites	1 site
Total CAPEX to cover 250 km ²	std*5 407 000	127 000
Depreciation, CAPEX average, 10 years	std*5 40 700	12 700
Yearly OPEX to cover 250 km ²	std*5 160 000	32 000
Annual cost to cover 250 km²	200 700	44 700

250 000

200 000

150 000

100 000

50 000

0

Figure. Cost savings opportunity RI SASTM antennas versus standard: annual calculations.

Sustainability & Impact

Providing a modern telecommunications infrastructure is crucial for modern economy and society. Access to the Internet allows using land more efficiently, peopling to develop their skills, to improve cooperation and enhance productivity of capital, as well as technology.

Mobile internet adoption will increasingly become the key metric by which to measure the reach and value created by the mobile industry, including its contribution to the UN's Sustainable Development Goals (SDGs). It also contributes to developments in the wider digital ecosystem, as mobile internet users are the addressable market for e-commerce, Fintech and a range of digitally delivered services and content.

With our technology, the users of mobile services will obtain a new level of availability, mobility and speed of information exchange regardless their geographical location. In Europe, this will diminish discrepancies between societies in the South, West, East and North providing those equal opportunities.

They will be able to communicate more efficiently and become more mobile. Cheaper Internet will serve as an advantage to the SMEs and local business.

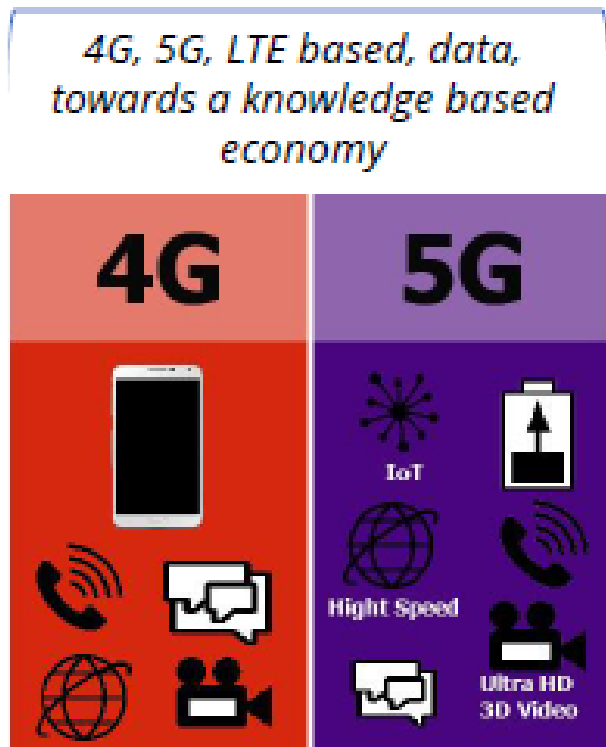
Our solution will be crucial for removing obstacles for societies in the emerging countries and influencing in favorable ways socioeconomic situation in rural territories.

Many inhabitants of those countries are frustrated and deprived of basic life conditions. It will give them new possibilities in their professional and social lives.

RI antennas may have an unprecedented impact on disaster preparedness and response. Additionally, digitalization of systems across different fields will help address challenges of equal access to healthcare, education, utilities and security. The mobile industry serves as a basis of all 17 Sustainable Development Goals (SDGs).

Development of production capabilities at our facilities in Kista, Sweden, will allow it to become a blueprint factory and technology excellence and R&D hub for our operations worldwide.

Business Model



Market & Competition

SUMMARY

Radio Innovation's highly disruptive and innovative solution gives the MNO lower CAPEX/OPEX, enabling end-user satisfaction with lower cost per GB/month and thus lower ARPU.

The advanced antenna platforms are passive, agnostic and consumes lower energy than standard antennas, giving more than 28dBi comparing to standard antennas of which you gain 18dBi.

The key competitive advantage for Radio Innovation lies in the way the antennas system is constructed, thus giving more coverage and higher capacity in all bands. The platforms provides MNO or tower companies with a clear value proposition in three areas:

- very low cost for deployment
- Clear end-user satisfaction -
- Net neutrality.

MARKET DYNAMICS

In mobile communication, the initial purpose of voice communication has grown to an all-digital wireless data paradigm. Mobile data traffic is nearly doubling every year. **The weak link is lack of high capacity to users outside the direct proximity to the base stations.**

The transition from GSM to LTE shows the huge increase in demand for capacity. For GSM it is about 0.024 gigabytes per month, mostly voice conversation, but for LTE the required capacity is 150 GB/month/user and the load is dominantly coming from VoD (Video on Demand). Voice calls are sporadic and only a few minutes every day in busy hour. Voice is also speech and pauses and does not occupy the mobile line for more than a few kb/s. Streaming video on the other hand is a continuous stream of data

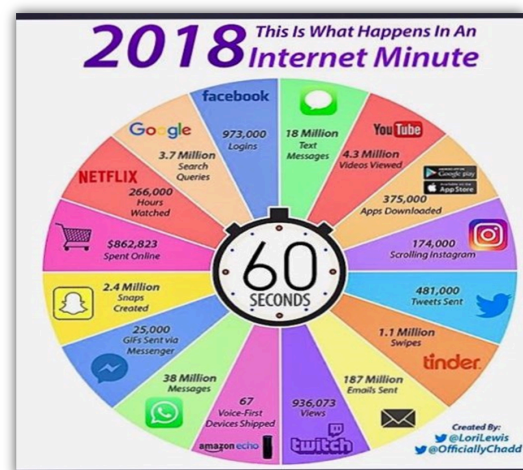
and requires a minimum of 1.4 megabits/sec for VoD quality. Assuming one hour of use per day for different usage patterns add up data volume surprisingly fast.

A user watching Video and/or TV a few hours per day, stream music and socialize over Facebook or other service will consume way above the minimum capacity offered by the MNO's. Today the operators are facing lack of support for high capacity LTE. Free surf is no longer available from the operators, rather a very low upper limit that will be reached rapidly in normal usage. Basic subscription fees for a few GB/month/user varies from 100 to 450 SEK. Upgrading to monthly volume to 100 GB/month/user increases cost several times over the basic fee. Users are not prepared, and cannot afford to pay more for LTE service, in particular, as the new services are becoming the norm for social interaction within society.

The Radio Innovation Antenna solution is a new paradigm to achieve high capacity, high speed and coverage at a fraction of the cost compared with standard solutions. The RI concept offers a radical performance gain and a sound investment and maintenance economy that will fulfil the highest expectations from the users as well as the vendors of wireless broadband.

MARKET POTENTIAL

Estimated global market size for RI's Site solutions is 10,000,000 existing sites at \$70,000 per site (based on 650 MNOs' installed base and expansion plans). The total addressable market is 700 billion USD in the coming 10 years. The usage of data is exploding;



- Mobile revenue has gone down in last 10 years for the MNO's
- Exploding mobile data traffic is still an ongoing trend

- Non-linear streaming exploding
- Renewal from feature phones to smartphones

Mobile data end-users

According to *The Mobile Economy 2018* GSMA the global mobile industry surpassed 5 billion people connected to mobile services. It is predicted that the number of unique mobile subscribers will reach 5.9 billion by 2025, equivalent to 71% of the world's population. Growth will be driven by developing countries, particularly India, China, Pakistan, Indonesia and Bangladesh, as well as Sub-Saharan Africa and Latin America. The Figure 3 below presents a global distribution of end-users according to the countries.

(2010) Total Internet Users: 1,991 M (201

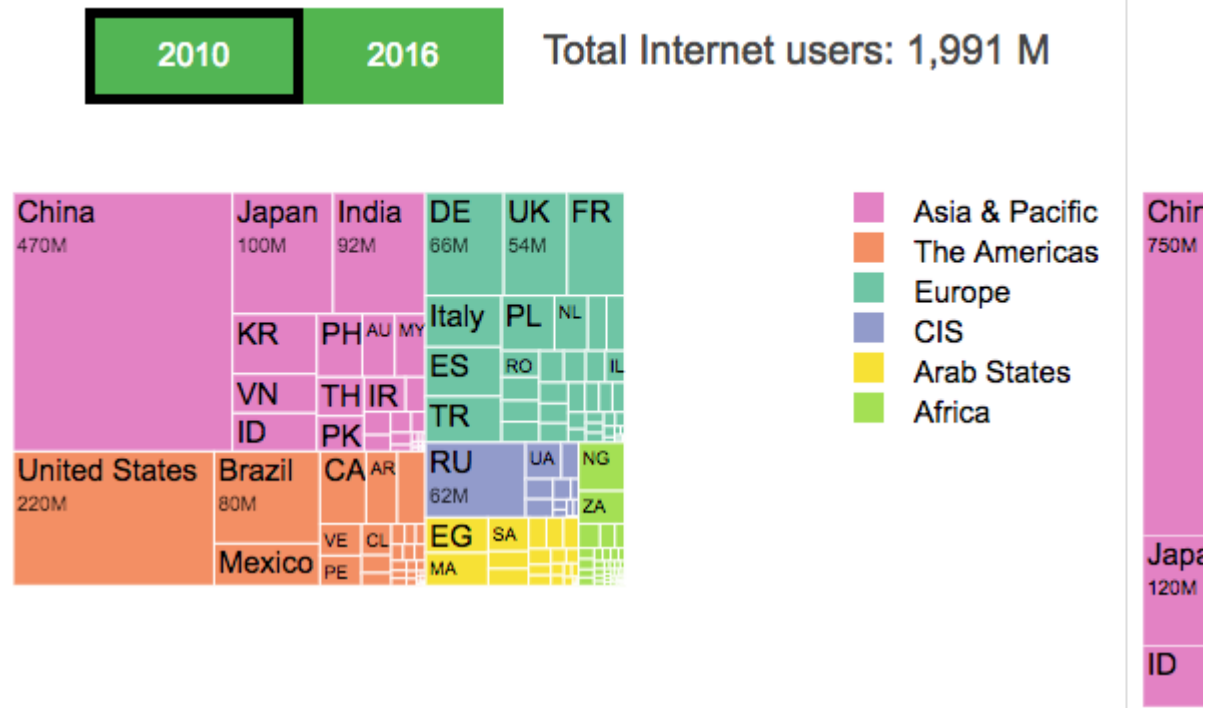


Figure. New data visualization on Internet users by region and country, 201

Source: ITU statistics website, 2017

MOBILE NETWORK OPERATORS' MARKET

The major factor driving the growth of the global commercial antennas market is the rapidly growing end use industries. Over the past decade, there has been a significant transformation in the communication system. We witnessed a massive boom in the antennas market, mobile phones, television or WLAN. The staggering growth in the wireless communication

market, in addition to the growing base of connected mobile subscribers, are driving the growth of the mobile communication antenna market. The astonishing growth in the number of subscribers per channel of the wireless communication spectrum requires an improved antenna system. The limited bandwidth of the spectrum can lead to network congestion, and hence the antenna system needs to be accurately placed for better network efficiency. The mobile communication antenna has gone through several technical up gradations in terms of coding, encryption, soft handoff technologies, in addition to digital modulation, such as phase shift keying. The spur in the consumer base of the wireless mobile devices and increasing investment in communication technologies in the developing countries are expected to boost the growth of the communication antenna market in the years to come.

The forecast growth of mobile data is indicative of a virtuous cycle, whereby demand is fueling network evolution, which, in turn, is fueling demand. The proliferation of smartphone ownership, expansion of cell infrastructure, and vast adoption of mobile video will drive up mobile data consumption seven-fold by 2021, according to the *2016 Cisco Mobile Visual Networking Index Forecast*. Currently, the explosive growth of mobile apps and overall mobile connectivity by end users is fueling the growth of 4G. This will soon be followed by 5G growth, which will drive even greater volumes of mobile data consumption. Emerging applications such as IoT, 4K/8K video streaming, virtual and augmented reality and industrial use cases require higher bandwidth, greater capacity, security, and lower latency. By the end of the forecast period, mobile data is projected to account for 20% of total internet traffic, up from just 8% in 2016.

ANTENNAS MARKET

The global antenna market was valued at USD 17.54 billion in 2017 and is expected to reach a value of USD 25.46 billion by 2023, recording a CAGR of 6.61% over the forecast period (2018 - 2023) according to *Global Antenna Market - Segmented by Type, by End User Industry Application, and by Region - Growth, Trends and Forecasts (2018 - 2023)* published by Mordor Intelligence LLP.

MOBILE DATA

Mobile data has emerged as the single most important driver of telecom revenue growth. The research forecasts that mobile data revenue will reach USD 633 billion globally in 2018 (*Mobile Data Pricing: Innovative Practices to Drive Adoption and Traffic*, 2014), increasing from 40% of overall mobile revenue in 2013 to 52% in 2018. Increasing uptake of 4G data services will shape future mobile data usage and adoption. It is expected the global 4G subscription base to surge at a CAGR of 52%, from 211 million in 2013 to 1,750 million in 2018. Almost all major MNOs have already deployed or are in the process of deploying their own 4G networks. According to Cisco VNI Mobile this is due to several reasons: world-wide proliferation of smartphones, expanding role of video in mobile entertainment and mobile TV, demand for VoIP and social networking, uptrends in mobile messaging, mobile banking and e-commerce, cloud computing, as well as M2M communication that sets to instigate new business opportunities. The escalation in mobile data traffic is also caused by favorable demographic and socio-economic trends that include rising living standards and burgeoning middle-class population. Growth rates varied widely by region, with MEA having the highest growth rate (96%) followed by Asia Pacific (71%), Latin America (66%), and Central and Eastern Europe (64%). Western Europe grew at an estimated 5%, and North America trailed Western Europe at 44% growth in 2016 (Cisco VNI Mobile, 2017).

According to GSMA (2018) mobile technologies and services generated 4.5% of GDP globally, a contribution that amounted to USD 3.6 trillion of economic value added in 2017. By 2022, this contribution will reach USD 4.6 trillion, or 5% of GDP, as countries around the globe increasingly benefit from the improvements in productivity and efficiency brought about by increased take-up of mobile services and M2M/IoT solutions. In 2017, the wider mobile ecosystem also supported a total of 29 million jobs (directly and indirectly) and made a substantial contribution to the funding of the public sector, with almost USD 500 billion raised through general taxation and USD 25 billion through mobile spectrum auctions.

COMPETITORS

As demand for mobile data is growing, the need for innovative solutions in the antenna industry is also increasing. We distinguish two groups among antennas manufacturers:

- network providers, such as Huawei, Ericsson, Nokia, Samsung or ZTE;
- and antennas providers: Cellmax, Ace, Comscope, Kathrein or Amphenol, to name a few.

When it comes to our direct competition, there is currently no other company that offers antennas with such features as RI antennas. Network providers do not have enough capacity and knowledge to compete with innovative solutions and antennas providers offer products with 10 times more limited reach than RI. Since antennas are not the main expertise of network providers, we mostly monitor competitive activities of antennas providers:

Ace - established in 1980, Ace Technologies is the first car-phone developer in Korea. With a series of RF-system devices and next-generation antennas. Their main products include base-station RF components, such as base-station antennas, filters, radios for telecoms (RRH) and other markets; mobile antennas, and RF connectors. Currently, they are working on

expanding their mobile communications business into the defense and automotive segments as well as developing technologies to support the ever-growing telecoms markets (such technologies as IoT).

Amphenol Antenna Solutions is a USD 6.2 billion revenue company supplying antennas to diverse markets including the mobile networks, automotive, military/aerospace, information technology and medical sectors. Amphenol Corporation was founded in 1932 and employs over 45,000 worldwide with product development and manufacturing operations in 30 countries. The company is a leading global solutions provider for wireless infrastructure systems offering over 6,000 products with best-in-class performance.

CellMax Technologies AB develops and markets base station antennas for high frequency mobile networks. It serves mobile operators and manufacturers of telecom equipment in Sweden and internationally. CellMax Technologies AB was founded in 2001 and is based in Kista, Sweden.

CommScope Inc., which opened in 1976, is a multi-national network infrastructure provider company based in, [North Carolina](#), United States. It was established in 1997 as a [spin-off](#) of [General Instrument](#) and has over 20,000 employees worldwide, with customers in over 130 countries. It is listed on a stock exchange (NASDAQ).

Kathrein is the innovation and technology leader in the field of base station antennas for mobile networks, manufacturing of up to 100,000 antenna systems per month. Working on the communication technologies since 1919, they today boast customer base including all major system manufacturers as well as over 240 network operators worldwide. The product range in the mobile communications segment extends from 25 to 6,000 MHz.

Most of antenna vendors manufacture standard product with very limited parameters compared to RI antennas, therefore, our solution is going to disrupt this market.

BARRIERS

Today's antennas market is limited by few barriers:

Given the standardized usage of current antennas products, the first barrier to the market is to encourage adoption of RI antennas among the customers used to different standards. The RI revolutionary technology offers customers a more expensive single product with a broader reach. However, to cover the same area, an MNO would need less antennas which in result accounts to the lower level of investment per area covered. In respect, we believe that MNOs would profit from this investment and be able to lower their costs.

A second market barrier is persevering through lengthy facility developmental timelines. Keeping up with orders without having an automated production line will be almost impossible. In light of this, we believe that funding from Horizon 2020 SME Instrument is crucial for RI success. Another way of overcoming this barrier would be to partner with a production facility. That would however mean losing control over production, possibly lowering the standard of our products and most probably moving production facilities outside of Europe to a country with cheaper labor and maintenance costs.

Third barrier is securing a reasonable return on investment for our innovation. Challenges can emerge not only in the early stages of market access when the initial price levels are established, but later on when competition acknowledges our solution. In order minimize this risk, we plan an offensive business strategy implemented quickly in several markets. While we will try to make new partnerships and encourage established MNOs to use

our solutions, we will be able to obtain positive cash flows as the number of customers increases. New transactions will generate profits and revenues will grow exponentially.

The last market barrier are varying radiation standards. Radio frequency (RF) radiation, a type of non-ionizing radiation, refers to energy that transmits wireless information. The radiation standards are, however, mostly regionalized and mostly relate to active equipment. Additionally, implementing RI antennas requires less products emitting the signal on the same area.

At Radio Innovation we already have a sellable and in-demand product as well as a strong business plan, we will pursue the need to expand our production management and R&D capacity to meet the present and future requirements of our customers. At the same time, we need to focus on increasing international market awareness of our technology by engaging the end-users and academia community influencers to aid market education and align with end-user's needs.

Our approach reflects the strategy to we pursue: we create uncontested market space and make competition irrelevant. Our analyses of competitive position towards alternative radio signal transmission technologies have demonstrated that the features of our SASTM technology redefine competition dimensions. Our product is a great fit for the emerging mobile telecommunication markets. By generating and capturing new demand from areas where mobile networks were not profitable to build, we are creating open market space. Success requires swift action to explore our privileged position as the only company that has achieved a robust technology solution capable of providing mobile internet access to wide masses of low-income users, in sparsely populated areas.

The chart indicates how the planned activities (corresponding to the blue line) fit into our growth strategy. The key milestones of our project and success

Re-design our product in a way that allows higher production automatization and optimization of the manufacture processes WHY? Because to reach higher production volumes, today's manual production and assembly process needs to be at least semi-automatic

Conduct a technology demonstration with selected telecommunications operator(s) WHY? To benefit our internal R&D process, prove and demonstrate the product qualities to build market acceptance

Develop dedicated tools and auxiliary equipment for the improved assembly line WHY? To enable gradual automatization of our production capabilities and remove a crucial bottleneck in our business plan

Preparations for production scale-up and management excellence WHY? To ensure we are a small company ready to reliably provide critical network infrastructure for major operators, with road open for adequate production capacities and relevant procedures, certification and IP protection

Team & Organization

MANAGEMENT TEAM

The Radio Innovation' management team is comprised of the following seasoned professionals:

Dusyant Patel, CEO - has an extensive background with Start-up and entrepreneurship. Have done 2 IPO's and several in investment as Private Angel within the Telco space. Before his entrepreneurship adventure, he held several key executive positions with Ericsson Group, Sony Ericsson

and Telia Company. He holds B.Sc., and MBA in Economics and Marketing. Post Graduate studies from Columbia Business School and London School of Economics.

Henrik Olesen, CTO - Extensive background in telecommunications, leading senior positions in major blue chip companies. Henrik Olesen also had numerous leading positions at Ericsson. Henrik has been with Radio Innovation and has seen the company grow from seed to today commercial expansion. Henrik holds an MBA from INSEAD and an MSc EE from the University of Lund.

Björn Petersson, CFO - has a genuine background with change management and financial control in project and line management functions from small and medium sized companies. Experienced from private companies and First North as well as governmental and venture capitalist owned. He holds a MSc in Finance and Business control from Stockholm University

Jan-Erik Karlsson, Operations – bring wealth of knowledge in the antenna systems space. His latest assignment was from Cellmax where he was head of production, sourcing and roadmaps. Previously he was head RF and designing of Antenna systems for 2G, 3G 4G and beyond. He has been working in the US, China and Brazil was head of site and factory management and power waves, prior to Cellmax – Jan-Erik was head of design at Allgon Systems. Jan-Erik has an Engineering background and been in the Industry for the last 25 years.

FINANCIALS

Income Statement

The income statements for the years 2018-2020 and for the first quarter of 2021 are presented below. The information for the years 2018-2020 is taken from the company's audited annual reports. The annual reports for 2019 and 2020 are available on the company's website or [here](#).

TSEK	2021 Q1	2020	2019	2018
Revenues	0	758	0	6 143
Capitalized development costs	0	2 781	3 671	4 538
Other income	0	1 573	12	3
Total income	0	5 112	3 683	10 684
COGS	-114	-322	-1 178	-2 810
Gross result	-114	4 790	2 505	7 874
Other operating expenses	-1 717	-5 323	-8 574	-10 162
Personell expenses	-1 565	-5 452	-8 371	-10 548
EBITDA	-3 396	-5 985	-14 440	-12 836
Depreciation	-1 442	-5 213	-4 505	-3 474
Financials	-17	-347	-432	-443
Result before tax	-4 855	-11 545	-19 377	-16 753

Balance Sheet

The balance sheets for the 2018-12-31, 2019-12-31, 2020-12-31 and for 2021-03-31 are presented below. The information for the years 2018-2020 is taken from the company's audited annual reports. The annual reports for 2019 and 2020 are available on the company's website or [here](#).

	2021-03-31	2020-12-31	2019-12-31	2018-12-31
Intangible assets	11 337	12 713	14 880	15 423
Property, plant and equipment	604	649	753	504
Long-term financial assets	100	100	50	40
Total non-current assets	12 041	13 462	15 683	15 967
Inventories	4 309	4 331	4 442	8 297
Other short-term assets	1 607	991	6 562	1 630
Cash and cash equivalents	826	4 165	1 985	1 213
	6 742	9 487	12 989	11 140
Total assets	18 783	22 949	28 672	27 107
Equity	5 922	10 770	22 085	6 955
Convertible loans	8 371	8 371	3 212	3 056
Other long-term liabilities	622	674	777	5 544
Short-term liabilities	3 868	3 134	2 598	11 552
Total equity and liabilities	18 783	22 949	28 672	27 107

Key Ratios

Financial Outlook

		2021	2022	2023	2024
		Total	Total	Total	Total
# Panels ordered					
Nordics/Baltic		73	200	0	0
Rest of Europe		160	500	0	0
APAC		0	7 200	10 200	10 200
MEA		100	2 900	7 200	10 800
NORTH AMERICA		0	250	0	120
LATAM		80	2 200	2 000	2 400

Orders Booked, #		413	13 250	19 400	23 520
Orders in kSEK					
Nordics/Baltic		1 679	4 600	0	0
EU xNordic/Baltic		3 680	11 500	0	0
APAC		0	165 600	234 600	234 600
MEA		2 300	66 700	165 600	248 400
NORTH AMERICA		0	5 750	0	2 760
LATAM		1 840	50 600	46 000	55 200
Orders Booked, kSEK		9 499	304 750	446 200	540 960
		2021	2022	2023	2024
# panels invoiced		93	3 870	20 300	22 600
		2021	2022	2023	2024
Sales budget					
Revenues		2 139	89 010	466 900	519 800
COGS		-1 674	-44 505	-233 450	-259 900
Sales commissions		-107	-4 451	-23 345	-25 990
Freight, customs, insur.		-107	-4 451	-23 345	-25 990
Gross Margin		251	35 604	186 760	207 920
GM%		12%	40%	40%	40%
OPEX:					
Sales costs		-1 000	-1 750	-2 250	-2 250
R&D		-2 750	-2 750	-2 750	-2 750
Staff		-14 076	-24 334	-26 236	-34 261
Admin, General & Other		-2 300	-2 550	-2 700	-2 700
Sum OPEX		-20 126	-31 384	-33 936	-41 961
Profit and Loss:					
Revenues		2 139	89 010	466 900	519 800

Other income		2 800	3 000	300	0
Gross margin		251	35 604	186 760	207 920
OPEX		-20 126	-31 384	-33 936	-41 961
Depreciation		-5 550	-4 400	-1 195	-50
Financials		-609	-609	0	0
EBT		-23 234	2 210	151 930	165 909
Operative cash flow:					
EBT		-23 234	2 210	151 930	165 909
Depreciation		5 550	4 400	1 195	50
Working capital		-1 500	-3 000	-3 000	-3 000
Operative cash flow		-19 184	3 610	150 124	162 959
Cash flow:					
Cash in bank opening balance		4 165	4 981	23 591	173 716
Cash flow from operations		-19 184	3 610	150 124	162 959
Equity injection		20 000	0	0	0
Convertibel notes			0		
Option program			15 000		
Cash in bank ending balance		4 981	23 591	173 716	336 675

THE SHARE

Cap Table

Shareholder	Share	Convertible loans	Stock options, Nov 2020	Proforma cap table	
Ulf Ekenman private and through holding	3 149 441	496 374	100 000	3 714 028	25%
Residenset Partners AB	2 000 841	92 566		2 084 174	14%
DEBO Invest AB (Dennis Bohm)	865 548	92 681	130 000	1 078 881	7%
Torbjörn Johnson	783 669			783 669	5%
Amjad Safadi	548 677			548 677	4%
Radio Evolution AB	420 566			420 566	3%
Magnus Brännström	422 036	11 918	30 000	463 203	3%
Stefan Rosberg	314 448			314 448	2%
iCommunication AB (Henrik Olesen)	291 303		30 000	321 303	2%
Dusyant Patel	4 000		400 000	404 000	3%
Others	2 964 083	71 673	560 000	3 606 891	24%
New investors	1 000 000			1 000 000	7%
Total	12 764 612	765 212	1 250 000	14 779 824	100%

Valuation

The subscription price of SEK 20 per share corresponds to a pre-money valuation of approximately SEK 235 million excluding other ongoing issues and conversion of loans.

The valuation at the latest issue in the autumn of 2019 amounted to SEK 6 per share. The increase in valuation is primarily motivated by the commercial successes that Radio Innovation had in 2020 and 2021 with the inclusion in Facebook's accelerator program, Orange accelerator program. In addition, we now have deployed over +10 successful PoC's around the world, and expected a breakthrough with an order by end of this year. The goal is to either attract a major player for an trade sale or conduct an IPO within 24 months.

LEGAL

Key Legal Information

IP & Trademarks

Radio Innovation has 2 IPR registration on patent pending.

The High-Band Lambda Super System - λ (HBSS) redefines everything mobile networks are capable of. Every component has been designed to maximize performance and energy efficiency. HBSS gives better coverage, higher capacity, and faster data rates. The HBSS antenna contains no electronics, they are 100% passive. All parts are made from aircraft graded aluminum, high precision manufactured according to highest standards.

- Future proof; 4G MIMO4-8 and 5G
- Previous mobile standards 3G, 2G, CDMA, FDD, TDD
- Up to 144 Gbit/s site capacity over 1,600 km².
- 18-sectors, MIMO8 each with 256 dipoles
- 690-2,700 MHz support for all bands and operators
- Up to 30 dBi antenna gain

The IPR process is on going and we expect for a decision during Q2 2022

Due Diligence

OTHER

Other