Proxbook

PROXIMITY MARKETING IN SPORTS & EVENTS

The Proxbook Report

The State Of The Proximity Industry

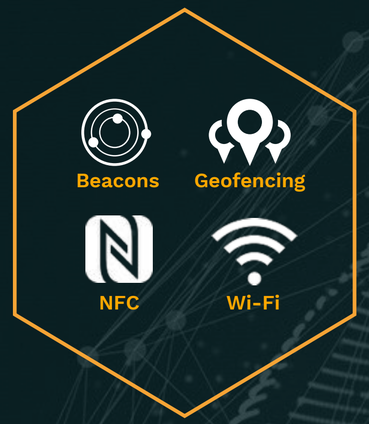
Q2 2016

Made by unacast.

TABLE OF CONTENTS

WHAT IS PROXIMITY MARKETING?

The cycle of proximity marketing



STEP 1

Proximity solutions at venues

Proximity marketing is a more granular form of location-based advertising, where the communication with a consumer is timely, relevant, and personal. Other location-based technologies, like GPS (lat, long) are often inaccurate and does not work indoors like proximity technologies.

Proximity technologies (BLE beacons, NFC and Wi-Fi) enable marketers to position the portable device within a few meters of accuracy allowing them to initiate a contextual communication relevant to a particular place.

STEP 2

Mobile communication, indoor navigation

To succeed with proximity marketing, you need to provide value to the customer while ideally aligning with an overarching marketing strategy.

Typical use cases in sports include seat upgrades, loyalty campaigns, special offers for merchandise and season tickets, ordering food to seats, and indoor navigation.

Typical use cases at events include check-in, networking features, displaying real-time event schedule, indoor navigation, and sending relevant notifications around exhibitors.

STEP 3

Retargeting after customer has left the venue

Customer interactions with proximity technologies generate valuable data that can be used to extend the communication from the offline venue to online domains.

When the client has left the venue it is possible to retarget them at a later stage - continuing the communication that was initiated at the venue and thus **bridging offline and online data.**

STEP 4

Bring customers back to the venue with personalized retargeting ads

The retargeting ad is shown to the customer when he/she surfs the web or uses their favorite apps.

Due to its superior accuracy in terms of location-based data, proximity targeting is a powerful method for venue owners to send hyper-targeted ads to customers that have interacted with certain products or taken a particular action inside their venue - to bring the them back.

Proximity technology also enables accurate measurement of the return-to-venue rates and ad attribution.

A MESSAGE FROM THE CEO & CO-FOUNDER

Proxbook is the world's largest proximity directory

THOMAS WALLE
CEO & Co-founder Unacast

Dear all,

Another fast-growing quarter is behind us and we are glad to announce the Proxbook Q2 2016 report. This time, we focus on proximity technologies at sports and events venues.

Did you know that the NBA, NFL, NHL and MLB miss out on more than $1 billion in yearly revenue from unsold tickets alone? That is why the sports vertical has been one of the quickest to adapt proximity technologies, and more than half of all major league teams are already leveraging proximity technologies for better fan engagement, seat upgrades, special offers, retargeting campaigns, and loyalty programs. In the report, you will find best practices on how teams are discovering new revenue streams and filling up their stadiums through proximity marketing.

Events and conferences are also quick to adapt proximity, as the majority of top event organizers already have an app in place, therefore, adding location and proximity features is a natural addition. It has become more common to use beacons or other proximity sensors for indoor navigation, smart check-ins, intelligent networking, and agenda updates. Proximity marketing has proven to enhance the attendee experience significantly and **in this report, you will find several examples of how large events are pioneering the technology with astonishing results.**

In the third part of the report, you will get the usual overview of the growth of the global proximity industry. In Q2 there has been another surge in sensor deployment (+33%), and there is an increased interest in maximizing the benefit from existing sensor deployments. **You will also get a chance to learn how Google is getting more involved with the ecosystem and how the new Bluetooth 5.0 standard could potentially disrupt the entire market.**

Have a great read, and we hope you enjoy the report! I look forward to your feedback.

Best,
Thomas

PROXBOOK EXECUTIVE SUMMARY

Exclusive insight to the proximity industry

Sensor amount sees another surge with **8,273,500** sensors deployed as of Q2 (+33%)

The clear trend in Q2 is how to **maximize the value of existing sensor infrastructure and proximity data,** as data monetization and online retargeting have become increasingly more popular

Google wants the ecosystem to succeed by launching additional products like **Nearby, Instant Apps and Proximity API**

Eddystone adoption continues to grow as **half of the proximity industry supports the newest beacon format** from Google (up from 45%). Apple is yet to answer

Sports and Conference venue owners **increase app adoption by as much as 6x** after using proximity technologies

Proximity technologies see widespread adoption in North American sports market as **47% of NFL stadiums, 93% of MLB stadiums, 53% of NBA stadiums and 47% of NHL** stadiums have already started to leverage the technology

Proximity technologies unveil **new significant revenue streams** to sports teams and event organizers

World leading exhibitions and conferences are adapting proximity technologies, including **CES, SXSW, Mobile World Congress, Cannes Lions** and many more

HELP US SPREAD THE WORD

Our goal is to educate the world on proximity and if you find the report resourceful, you can contribute by spreading the "Word of Proximity" by hitting the share button!

Share Tweet Share +1 Pin Forward

PROXIMITY SOLUTIONS IN SPORTS

All use cases seen in the Report have been provided by
Proximity Solution Providers that are members of Proxbook.
Proxbook contains over 100 proximity use cases.
These can be accessed freely on www.proxbook.com

WHY SPORTS LEAGUES ARE ADAPTING PROXIMITY TECHNOLOGIES

Sports teams are missing out on $1 billion a year from lost ticket sales

The North American sports market revenue in 2015 was $63.6B. Major leagues, including the NFL, MLB, NBA and NHL, account for 48% ($30.31B) of that revenue.

Attendance at these major league games has been stagnant for a few years now and in 2015 unsold tickets account for $184 million for the NBA, NHL and NFL combined. For the MLB it is even worse, as $955 million was lost in 2015 from unsold tickets alone. To fill up those arenas and stadiums, sports teams need to offer an experience that is convenient, exciting and makes the fans feel even more comfortable and extraordinary than watching the games from home.

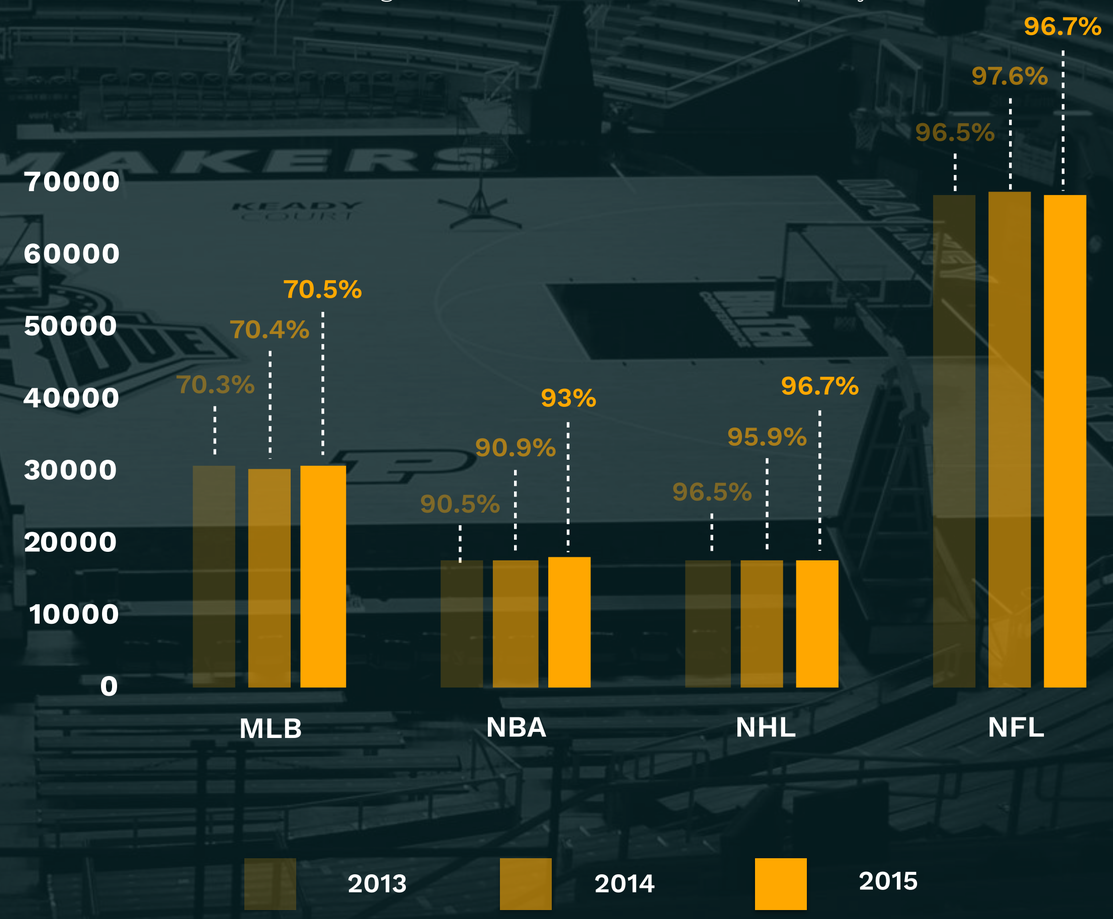
Beacons and proximity technologies are not only helping to sell more tickets. They are redefining how sports teams communicate with fans, increasing revenue from merchant sales as well as seat upgrades. Proximity technology also opens up brand new sources of income from enabling sponsors to interact with fans and monetize hyper-accurate visitor segments through advertising.

Proximity technologies also extend the communication from sports venues to online channels by retargeting loyal fans and visitors with relevant offers and season tickets long after they have left the stadium.

Teams that have deployed beacons and proximity technologies have seen an ROI as big as 40x from incremental merchant revenues alone within one season.

MAJOR SPORTS LEAGUE ATTENDANCE

Average attendance % vs maximum capacity



WHO IS LEVERAGING PROXIMITY?

Beacons are taking over the North American Sports market

93% of MLB stadiums have implemented beacon technology

75% of NFL stadiums have implemented beacon technology

53% of NBA arenas have implemented beacon technology

47% of NHL arenas have implemented beacon technology

PROXIMITY ADOPTERS AT SPORTS

Proximity delivers better fan experiences

"The KENO! activation allowed us to monetize our proximity technology in an entirely new way. Through their mobile devices, fans were able to participate in the exciting KENO! action on the court, resulting in our most engaging text activation to date!"

Peter Sorckoff
Chief Creative Officer and SVP Marketing at Atlanta Hawks

"We have created a remote control for the fan experience in our venue; an app that coalesces all of the platforms that we utilize for the fan experience into one location. The biggest complaints in our business centered around the long lines at the concessions and the fact that you had to miss a good portion of games because you were in that line. Now we were able to eliminate that problem. Also, our app generates enormous amounts of data which helps us to tailor a customer experience to each individual."

Alex Martins
CEO at Orlando Magic

"Always aiming for a better fan experience, FC Porto decided to invest in contextualized and segmented contents based on location and proximity, inside Estádio do Dragão and in all FC Porto stores. From all the selected technologies, due to its precision, beacons are without a doubt one of the most powerful and cost-effective technologies to achieve the goals that we set ourselves to reach."

Tiaga Gouveia
Marketing Director at FC Porto

GOLDEN STATE WARRIORS & ATLANTA HAWKS

Use case

BRANDS INVOLVED

SOLUTIONS BY

RESULTS

- **Beacons directly accounted for 9% of all seat upgrades during the season (Golden States Warriors 2015-2016)**
- **Beacons directly accounted for 11% of all seat upgrades during the season (Atlanta Hawks 2015-2016)**
- **Average transaction value was 87% higher than the average transaction value for all items(Golden States Warriors 2014-2015)**
- **The Golden States Warriors recouped their proximity installation cost from seat-upgrades alone, half way into the season(2014-2015)**

OBJECTIVE: To notify fans about seat upgrade possibilities, special offers and open up new revenue streams

Beacons at the top of escalators triggered content that allowed fans to upgrade their seats. The experience (expapp.com) provided a uniquely trackable link that allowed Warriors to determine what % of seat upgrades came from beacons, as well as their dollar value.

Deploying beacons alone is not enough to engage your audience. Simple messaging tweaks and engaging visual content have proven to impact significantly user engagement and ROI associated with beacon notifications. As an example, Signal360 shares their observations from NBA teams, the Golden State Warriors and the Atlanta Hawks: For approximately half of the season, both organizations created their own Card content to drive seat upgrades. Both teams had less than ideal seat upgrade rates, and the Signal360 team was confident that minor changes in messaging would make an immediate positive impact.

Learnings: Fans MUST have a clear call to action and understanding of value to prompt engagement. Immediately after these slight changes were made, both teams saw drastic improvements in their seat upgrade numbers.

Beacons were deployed in the same positions at their respective arenas and it was public knowledge that both teams were using beacons, but the seat upgrades ROI indeed shifted as soon as the content was more direct and user-friendly. A combination of articulated user value plus ease of access is instrumental for a successful proximity marketing campaign.

TECHNOLOGIES USED

Beacons

GEOGRAPHY

United States

MILWAUKEE BUCKS & MCDONALD'S

Use case

BRANDS INVOLVED

SOLUTIONS BY

RESULTS

- **The Milwaukee Bucks powered a relatively robust geofence-based campaign across 125 McDonald's restaurants, reaching over 50% eligible to receive campaign messaging**

OBJECTIVE: Drive users of the Milwaukee Bucks app to download the McDonald's app

In 2015/2016 sponsorship revenue accounted for $799 million for the entire NBA. One of the ways in which teams have monetized their content to date, other than traditional merchandise sale or seat upgrade use cases, is by inviting their sponsors to brand the content triggered in the team's app (and soon to be sponsors' own mobile apps) ranging from branding the 'Welcome' messaging to sponsor-hosted sweepstakes.

One excellent example of a pro-sports team leveraging Signal360's platform with a sponsor is the Milwaukee Bucks campaign with McDonald's: McDonald's, The Milwaukee Bucks and Signal360 partnered to activate a geofence campaign featuring McDonald's content pushed through the Bucks mobile app, as fans crossed geofences created around local McDonald's restaurants.

The campaign ran from January 20, 2016 until February 13, 2016 - a total of 25 days.

What's Next? Content Retargeting
Retargeting enables brands to deliver a targeted ad through Facebook, Twitter, Instagram, website or even directly through a brand's native app to a mobile user who has interacted with the Signal360 system. As an example, a sports fan visits a team sponsor's store, restaurant, dealership, or hotel in the last "X" weeks, but not in the last "Y" days; teams can now leverage content retargeting to entice a return visit.

Mobile devices have changed the way users engage in day-to-day activities. 64% of Americans own a smartphone. Jumping to 85% for those between age 18-29. So whether the sports fan is a loyal Facebook user, Instagram fan, Twitter follower, Pinterest'er, web surfer, or all of the above, teams can now reach them where they are - on their mobile devices.

A number of team partners will be leveraging this solution in the 2016 - 2017 season.

TECHNOLOGIES USED

Beacons

Geofencing

GEOGRAPHY

United States

ORLANDO MAGIC
Use case

BRANDS INVOLVED

SOLUTIONS BY

OBJECTIVE: The Orlando Magic wanted to increase fan engagement, along with increasing ticket sales and season ticket holder renewal rates

The team had an existing app but was looking for a way for fans to be able to interact in many more ways than in the more static fashion they have experienced in the past. They wanted a more dynamic and comprehensive experience that could go beyond just content offerings. They also wanted to sell more tickets and increase season ticket holder renewal rates.

The updated app VenueNext helped them connect all the services of the venue, from managing tickets, to entering the arena, ordering food/beverage/merchandise and/or purchasing a seat upgrade/experience through the Magic Marketplace, making attending games much more convenient. The app has given the Orlando Magic the ability to expand their Fast Break Pass option of purchasing a handful of tickets at a cheaper price point. The app also includes added location identifiers so Fast Break Pass holders can receive their seat assignments now once they are within a mile of the arena (previously it was not assigned until they entered the building).

Orlando Magic adopted VenueNext's platform that includes content management and operational control system Canopy and Wisdom, a data and analytics platform. The two systems work in tandem to help the Magic get a comprehensive view of their venue systems over the course of an event, and insights into guests' behaviors so you can adapt and make changes across the ecosystem in real time.

With knowledge from Wisdom and Canopy, the team has been able to do things such as message groups of mobile users in real time, based on their location and let guests know limited edition merchandise is on sale and there is no wait time at a particular concession stand. More specifically, with data from Wisdom, the Magic can know what food, beverage or merchandise items are in high demand. They can then use Canopy to remove items from the menu, so you are live-updating what's still available for sale, or manage expectations by changing wait times.

RESULTS

- **App adoption: 30% (the industry standard is 5%)**
- **$500,000 in-app sponsorship revenue**
- **More than 80% of season ticket holders have accessed and used the app**
- **Over $1 million increase in ticket sales**
- **Fast Break Pass sales up 233% from last season**

TECHNOLOGIES USED

Beacons Wi-Fi NFC

GEOGRAPHY

United States

THE CLEVELAND CAVALIERS
Use case

BRANDS INVOLVED

SOLUTIONS BY

OBJECTIVE: To improve the relationships with fans by giving them a better experience

With some of the most die-hard fans in the NBA, the Cleveland Cavaliers have invested heavily in their attendees' experience. Limitations on their existing mobile app failed to give fans the ultimate connected experience inside and outside of the popular Quicken Loans Arena (The Q).

YinzCam and Gimbal partnered to create a new and improved version of the Cleveland Cavaliers app for the 2014 – 2015 basketball season.

Beacons were permanently installed throughout The Q, as well as strategically deployed mobile beacons at offsite locations.

Location and proximity-based push messaging capabilities deliver unique and relevant content directly to fans, including messages from the owner, the night's lineup, and fun facts like celebrities in attendance or the proximity of the team's mascot.

Gimbal Manager makes it easy to update beacons even when out of reach, refresh messaging content and provide management with the analytical insights to understand the success of the solution and previous campaigns, to further deepen user engagement.

The Cavaliers have also integrated their ticketing program and data from their native web-app into a unified system. So the organization can record user's behavior and deliver personalized content to each user through push notifications.

RESULTS

- **More than 82,000 total beacon visits and more than 138,000 total visits to pinned locations**
- **Retailers outside the arena have the opportunity to connect the inferred sports interest of fans with retail offerings**

TECHNOLOGIES USED

Beacons

Geofencing

GEOGRAPHY

United States

GIRO D'ITALIA

Use case

BRANDS INVOLVED

Giro d'Italia

RCS MEDIAGROUP

SOLUTIONS BY

QUIBEE

RESULTS

- **30,000** people reached
- **46,588** pages browsed
- **215,000** sq yd of geofenced area

OBJECTIVE: To entertain fans during the two days of final stage of the Giro d'Italia in Turin with RCS Mediagroup digital newspapers, magazines and books

Quibee turned the city of Turin into the largest virtual newsstand in the world, during the final stage of the Giro d'Italia bicycle race. For two days fans and people could get entertained with RCS Mediagroup digital contents, on their smartphone and tablet.

The company used iBeacon technology to allow people to read while waiting, free of charge. There was 215,00 sq yd of reading areas in total covered by beacons. The campaign reached 30,000 individuals who browsed 46,588 pages in total. Thanks to beacon technology RCS Mediagroup was able to entertain readers in an entirely new and efficient way.

"Quibee's solution seemed like a fascinating opportunity and with a large potential for integration with our brand. They were, in fact, many of partnership opportunities both in our publishing business and sporting events, as in this case, and I am sure that we will continue this path of mutual growth," commented Enrico Filì, responsible for eCommerce & New Business of RCS MediaGroup.

"The project developed during the last stage of the Tour of Italy in Turin has given great results and was one of a kind. The shrine has proved popular in the open interest of the public that crowded the street circuit. The Tour of Italy proves once again sensitive to new technologies, innovation in every field and the Group's synergies," stressed Paolo Bellino, Managing Director of RCS Sport.

RCS started to pilot iBeacon technology already back in 2014 and see great potential for proximity marketing in the future.

TECHNOLOGIES USED

Beacons

GEOGRAPHY

Italy

FC PORTO
Use case

BRANDS INVOLVED

SOLUTIONS BY

kontakt.io

OBJECTIVE: To improve the relationships with fans by giving them a better experience

To allow FC Porto fans to engage on a deeper level with their favorite club, Thing Pink developed an integrated digital ecosystem including an innovative app that allowed a contextualized communication. By deploying beacons in and around the Dragon Stadium and store, the club was able to push merchandise and food sale promotions to fans' smart devices in a highly personalized way: For example, a discount when the fan's favorite player scored a goal, or as a reward for arriving early. Furthermore, the beacon solution reduced the usual crowding issues when fans enter the stadium by enabling digital ticketing via SmartPhones and Smartwatches. However, they did not stop there.

By deploying beacons not only in the Dragon Stadium and store but also at other physical points where the FC Porto brand was present, the club was able to achieve a level of interaction with fans that was previously impossible. For instance, the day before a final cup match there was a big music event in the city where the game was being played. Fans were sent notifications at certain hours with messages such as: "Still at the festival? Don't you think it is time to go home and get some rest? We have a big game tomorrow and we need your support :)." "The feedback has been fantastic" says Jose Aguiar, Head of Android and IoT at Thing Pink, the agency who created the mobile app that made the magic happen.

So were there any challenges? "Although the BLE Bluetooth technology is a standard one," says Jose. "Each device deals with it in a different way, either through permissions or even signal reception. The environment in which the beacons were installed had to be carefully studied to give the best user experience to our app users." Kontakt.io recently launched a new beacon deployment and maintenance services program to eliminate completely the hassle of setting up and maintaining a beacon infrastructure, so this should not pose a problem in future.

RESULTS

- **150,000 app downloads**
- **High fan satisfaction**

TECHNOLOGIES USED

Beacons

GEOGRAPHY

Portugal

TABLE TENNIS EUROPEAN CHAMPIONSHIP

Use case

BRANDS INVOLVED

SOLUTIONS BY

- **Eddystone-URL campaign**
- **Going live in 18-23rd of October 2016**

OBJECTIVE: To engage players and visitors during the event without an app

ITTF is looking to offer a mobile experience to guests without having to build an app. We have looked at all the options and the Eddystone-URL is a perfect solution. With the hurdles of app-based mobile engagement technologies, it seemed infeasible to select any other vendor. Beeem's unique approach of using Google Chrome on iOS and Android allows ITTF to engage players and visitors without requiring an app install.

Furthermore, Beeem's intuitive interface allows staff to change and time the content and interaction tools on the fly that requires no technical knowledge.

The zero-configuration beacons will enable to place the beacons at their desired locations and do all the configuration inside Beeem's convenient interface. The LIEBHERR 2016 ITTF European Table Tennis Championships will be held between the 18th and the 23rd of October. SENSORO is selected as a beacon partner for this project.

"We are looking to take best practices from this initial project and work on other ITTF events in the future as well." said CEO of Beeem.

The project will track the engagement and interaction on Beeem's dashboard and will employ a tool to allow for offline to online retargeting of the visitors.

TECHNOLOGIES USED

Beacons

GEOGRAPHY

Hungary

PROXIMITY TECHNOLOGY AT EVENTS

All use cases seen in the Report have been provided by
Proximity Solution Providers that are members of Proxbook.
Proxbook contains over 100 proximity use cases.
These can be accessed freely on www.proxbook.com

WHY EVENTS ARE ADAPTING PROXIMITY TECHNOLOGIES

Proximity is an organic add-on to Event apps

Every event organizer's number one goal is to attract top speakers and sell tickets. Therefore event marketers need to be able to prove the return on investment for the time of the speakers. Another challenge is attendance; making the event memorable and offering an extraordinary experience that is remembered and talked about.

Without proximity technologies, it has been impossible to measure how many attendees visit a certain session, a certain booth or where the attendees spend most of their time at. Hence, it has been rather difficult to provide the speakers and exhibitors any insight about their potential audience.

To enhance the visitors experience and gather resourceful data about the attendees, event marketers are turning to mobile apps. 88% of top attended event organizers are expected to develop their own mobile apps by the end of 2016. **As the average top event spends $80,000 on printing, they save 50-75% to develop an app instead.**

Adding proximity technologies to an app is becoming increasingly more popular for event marketers. After all, without knowing the location of your visitors, there is no context. Without context, sending timely and relevant messages to attendees is impossible.

Using beacons and other proximity technologies event apps can be used for indoor navigation, check-ins, "smart" badge pick-ups, sending event information and for advanced networking. Event visitors can also be retargeted with highly personalized ads through online channels after the event.

MWC app by Moca platform

WHO IS LEVERAGING PROXIMITY?

World leading exhibitions and conferences are adapting proximity technologies

SXSW - **80,000 attendees every year** (United States)

CES - **170,000 attendees every year** (United States)

Mobile World Congress - **100,000 attendees every year** (Spain)

EXPO 2016 - **8 million visitors in 6 months** (Turkey)

Cannes Lions - **15,000 delegates each year** (France)

High Point Market - **80,000 attendees every year** (United States)

PROXIMITY ADOPTERS AT EVENTS

Proximity enables to deliver the best possible experience

"The GSMA app is a communication and content tool and with proximity marketing, we can provide visitors personalized information and rich content based on their location, at the moment they need it the most. Location-based marketing services helped us to accomplish our goal: To deliver the best possible experience to the mobile user!"

Xavier Casals
Technology and Mobile Innovation Lead of GSMA

"Being able to incorporate indoor mapping into High Point Market's app was integral to taking our user experience to the next level. We had a complicated navigational challenge before us. Using Beacons and the indoo.rs technology was the ideal solution. The technology integrated smoothly into the app, providing our attendees with an efficient and effective method of navigating the Market's largest property."

Tom Conley
President and CEO of the High Point Market Authority

"The proximity solution from Nimble devices worked perfectly for us. It provided something extraordinary to our 15,000 attendees, which they loved to use while helping them to find the right stages, demo stands, and restaurants easily through the app. Highly recommended!"

Miki Kuusi
Co-Founder and CEO of Slush

MOBILE WORLD CONGRESS

Use case

BRANDS INVOLVED

SOLUTIONS BY

OBJECTIVE: Enhance attendees experience, increase commercial value and improve future events by enabling exhibitors to attract segments of attendees to their booths using proximity notifications

Mobile World Congress (MWC) is the world's largest annual gathering of mobile and related industry. The Mobile World Congress 2016 lasted for four days and gathered 101,000 attendees from more than 200 countries and regions. The app used at MWC was powered by GSMA and designed to improve attendees experience during the event. More than 700 NAO BlueSpot beacons were deployed, provided by Pole Star, on the 240 thousand square meters of exhibit space in Fira de Barcelona's Gran Via venue. Almost 40 million data points were analyzed by MOCA platform during the Mobile World Congress.

The combined solution was used in the GSMA official mobile app and website. Moreover, Mobile World Congress introduced some new features to the GSMA Event App: Indoor navigation, Intelligence networking, Fast check-in using proximity, among others.

From partnering with Pole Star with its indoor location solution and MOCA with its proximity marketing services, visitors were led through the 240,000 m2 of Fira's venue, received personalized notifications and benefited by a machine-learning recommendation system dedicated to enhancing networking. Moreover, exhibitors were able to connect with attendees and bring them to their stands. Finally, location and audience analytics provided event organizers with the necessary knowledge to improve future events.

RESULTS

- **65% of attendees downloaded the GSMA Event App**
- **57% turned on both location services and Bluetooth**
- **51% of mobile users who received a location-based notification about nearby exhibitors interacted with it (7.2x higher than industry average)**
- **90% of mobile users interacted with the app inside the venue. That's 200% more than the usage rate at MWC 2015 and 460% more than the best usage rate for event apps**

TECHNOLOGIES USED

Beacons

Geofencing

GEOGRAPHY

Spain

SLUSH 2015

Use case

BRANDS INVOLVED

SOLUTIONS BY

OBJECTIVE: Enable visitors to access all the event information in a more engaging and convenient way

Slush, the biggest startup and investor event in Europe, grew very quickly from a small gathering to one of the largest events in the world. But growing from hundreds of visitors to tens of thousands of visitors also came with a new set of challenges. As the venue's size and complexity grew, visitors were struggling to find the companies they wanted to meet and find the stages they needed.

Based on last year's experience, there was no question whether there would be indoor positioning this year—it was simply required. Based on the analytics from two consecutive years, the map and location information has consistently been one of the top 3 features used by the visitors as well as the schedule and list of exhibitors.

As a very practical challenge of having 15,000 people attending an event, the internet connections through Wi-Fi and cellular are constantly experiencing peak load t. Having indoor positioning and mapping solution like Steerpath that can work entirely offline was a must for an event like this. Slush 2015 was the largest indoor production in the Nordics and it took almost a week to get everything built from zero with no time to spare. Since the internet connection at the venue was far from perfect, it was important that the indoor positioning would work without relying on internet connectivity. To get the app on time to Apple App Store the indoor positioning data was needed two weeks before the site was even built. Steerpath's capability to function without the need for onsite data collection (fingerprinting) or calibration meant that this was not an issue.

Deploying the Steerpath indoor positioning beacons on site was easy since it did not require any technical skills, not even use of special installation apps. Covering Slush with 27,000 square meters of visitor accessible space required only 140 beacons.

RESULTS

- **Indoor navigation was used 14,000 times**
- **Most searched locations: Food, Presenter stage, Specific startups**
- **67% of visitors downloaded the app**
- **30% Android, 70% iOS (Tech savvy audience)**

TECHNOLOGIES USED

Beacons

GEOGRAPHY

Finland

SAIL AMSTERDAM

Use case

BRANDS INVOLVED

SAIL

ExterionMedia

SOLUTIONS BY

inBeacon

Radius Networks

GLIMWORM Beacons

OBJECTIVE: **Deliver an unforgettable visitors experience attendees**

SAIL Amsterdam is the largest public event in the Netherlands and the most important nautical event in the world. The 2015 edition of SAIL Amsterdam was enjoyed by 2.3 million visitors over a period of 5 days.

By using iBlio beacons with a range of over 300 meters on selected tall ships inBeacon was able to let a horn blow on a smartphone with the SAIL app installed and send a proximity message with information about the historic ship at exactly the right time in the right context.

After the ships were moored the range was adjusted in the inBeacon software platform to trigger at 50 meters. This way visitors walking or sailing by received the right information at the right time. It was also made sure this information was only sent once a day to each visitor to avoid the feeling of spam.

When visitors came in the vicinity of an event, they received specific information concerning the event and schedule. The technology was also used to attract visitors to the pop-up stores with SAIL merchandise. Store managers could activate a beacon which would send out a coupon with a timestamp to visitors passing at times it was less crowded. Over 19% of these types of commercial message were directly opened and over 50% of these people visited the pop-up store within the given timeframe.

During the event, 8,622,816 beacon interactions were recorded by the inBeacon platform. In total 71.863 notifications were sent out with 73% information about ships or the SAIL event and 27% for promotions. Over 26% of the informative notifications were opened immediately. A/B tests proved that notifications with a distinctive boat horn sound were opened 27% more compared to notifications with a default sound.

The SAIL case was awarded the prestigious Dutch Interactive Award for “getting every aspect of the user experience exactly right,” according to the expert jury.

RESULTS

- **8.6 million beacon interactions**
- **3 different apps used for interaction**
- **71,863 notification sent**
- **22% direct open rate for proximity messages(3.1x higher than industry average)**

TECHNOLOGIES USED

Beacons

GEOGRAPHY

Netherlands

HIGH POINT MARKET

Use case

BRANDS INVOLVED

HPMKT
HIGH POINT MARKET

SOLUTIONS BY

indoors

OBJECTIVE: Resolve the logistical challenge for visitors and improve the buyer experience

As trade shows get bigger and bigger, it is more important for everyone, exhibitors, visitors and venue owners to get the most out of their time.

High Point Market is a 100-year-old trade show hosted in High Point, North Carolina. There are 180 plus buildings, over 1 million sqm, and all spread across the entire city. To increase the visitors value and the exhibitor's ROI, High Point and Skookum (the MyMarket app developers) contacted indoo.rs to add indoor navigation to the main building.

This installation consisted of 950 iBeacons, mounted across the 13 floors of the IHFC, Market's largest building. The goal was to enable 75,000 attendees having the iOS App installed to navigate around Market and find their desired exhibitors with minimal effort.

With indoo.rs SLAM EngineTM, the entire mapping of the 30,000 sqm, took only two days as it is possible to map at regular walking pace. On the second day, small improvements to the obtain the desired accuracy, by re-SLAMing a few key areas.

The app allowed visitors to pre-plan which exhibition stands they would like to see, and help them plot the most efficient route. For the exhibitors, they were able to be secure that their booths we found and for the venue owners, they offered the added value to both visitors and exhibitors that such a prestigious trade show should do.

An added bonus for all was that the blue dot visualized the user's position on the map, and created a better awareness of their immediate surroundings and the overall venue by listing all exhibitors and assigning them their respective location on the map. This allowed for increased foot traffic to booths that might not have been known to the visitor beforehand.

RESULTS

- **Implementation done in 2 days**
- **A dramatically improved user experience: Buyers can more effectively plan their visit, schedule events, search preferred exhibitors, and navigate to exhibitors all from the convenience of their mobile phone, saving time and effort**
- **300,000 sq ft of indoor venue covered**

TECHNOLOGIES USED

Beacons

GEOGRAPHY

United States

EXPO 2016
Use case

BRANDS INVOLVED

EXPO2016 ANTALYA

SOLUTIONS BY

VesLabs digital touch

estimote

OBJECTIVE: Enable visitors to access all the event information in a more engaging and convenient way

Expo fairground covers an area of 120,700 sq ft with several buildings, hundreds of gardens and events. VesLabs developed the EXPO 2016 app and deployed a beacon network of 5,000 beacons. People visiting Antalya can see where other visitors are gathering and look up information about events in the vicinity.

Organizers can also deliver timely and relevant content through the mobile app. Apart from that, there is also a navigation feature with additional accessibility features for the visually impaired. Another important part of the app is the analytics. With access to heat maps and foot traffic information they can discover which events are performing well and which are not.

Real-time traffic data is also necessary for security. Organization security manager can track the real-time location of security staff via Fizmon CMS and direct them to most crowded areas. Beacons helped us a lot to help to increase engagement of users. By interacting with beacons, one can unlock secret information that is scattered around the venue; it adds a taste of gamification for visitors. The platform lets visitors enjoy enhanced multimedia experience that allows them to access easily details about a particular exhibition they are currently looking at. Objects, mostly different types of Plant Sculptures (Mosaiculture) that are equipped with beacons deliver messages enriched with images, videos and audio content delivered straight to the user.

RESULTS

- **250,000 beacon interactions in the first 3 months**
- **Dwell time and heat maps for all the different areas in the venue**
- **120,700 sq ft of venue covered**

TECHNOLOGIES USED

Beacons Geofencing Wi-Fi

GEOGRAPHY

Turkey

ARCTIC15
Use case

BRANDS INVOLVED

SOLUTIONS BY

OBJECTIVE: Learn more about the people flow and peak times at various areas in order to improve for future events

Arctic15 is a two-day startup conference, organized by ArcticStartup in Helsinki, Finland. The goal of the event is to make sure all attendees get quality networking and receive a real return on investment.

The ArcticStartup team has always looked for ways to improve their event and application. They needed to know where optimization was possible in the event - the hard data and numbers, with soft and easy-to-digest visualizations, in order to better facilitate networking between attendees.

The solution to the problem was to utilize Proximi.io proximity platform inside the official Arctic15 app to collect analytics about how the visitors moved inside the venue. The app is available for both iOS and Android. Proximi.io was integrated into the app in less than half an hour with the native SDKs.

The total area in the venue equals to 2500 square meters (27,000 square feet). The visitors' movement was followed anonymously through regular position updates to the cloud system. These updates represent the general flow of visitors throughout the venue. To gain a better glimpse of the relative popularity of the different areas, 13 areas of special interest with geofences was defined. This enabled to count the amount of times visitors entered or left one of the areas. As the exhibit area was quite large, it was split into three areas, named Expo Area 1, 2 and 3.

Visitors were encouraged to download the app with visible on-site marketing. A total of 24% of the visitors were captured in the analytics. This can be well considered as a representative sample.

RESULTS

- **24%** of visitors were captured in the analytics
- **Dwell time and heat maps** for all the different areas in the venue
- **27,000 sq ft** of indoor venue covered
- **27%** Android, **73%** iOS

TECHNOLOGIES USED

Beacons

Geofencing

GEOGRAPHY

Finland

PROXIMITY INDUSTRY STATUS

The information contained in the following section has been aggregated from all data input by Proxbook members. To navigate between companies use the advanced filter labelled “Company Directory” at www.proxbook.com

INDUSTRY NEWS

Google wants proximity to succeed

- **Launch of Nearby**
- **Google announces Instant Apps**
- **Emphasis on Proximity Beacon API**

Google's primary goal regarding Eddystone and the Physical Web is an improved user interface and customer adoption of proximity sensors.

Launch of Nearby Notifications: "There are often proximity driven features in apps or websites that can make our users lives better, but not if you don't know about them", says Akshay Kannan, Product Manager at Google. Nearby Notifications is a core user facing feature, helping Android users to discover location-specific notifications, apps and websites without requiring an app. When the user has opted in, they will receive a non intrusive message under the notification tab for relevant apps, websites or online services that are associated to a certain beacon in the Google Proximity Beacon API.

You can attach 3 types of content to the beacon: 1) HTTPS Web URL's to websites or Instant Apps* 2) App intent with URL fallback for users who doesn't already own the app, 3) Direct app installs, where tapping the notification will let the user install the app

Instant Apps: Let's the URL serve as a fragment of an app. It allows Android apps to run instantly, without requiring installation, so that users can get a sense of your app before having to download it.

Learn more from the exclusive interview with Scott Jenson, Project lead for the Physical Web at Google

INDUSTRY NEWS

Bluetooth 5.0 - propelling the adoption of proximity

- **Double speed**
- **Quadruple the range of the current low-energy version**
- **Increase data broadcasting capacity by 800%**

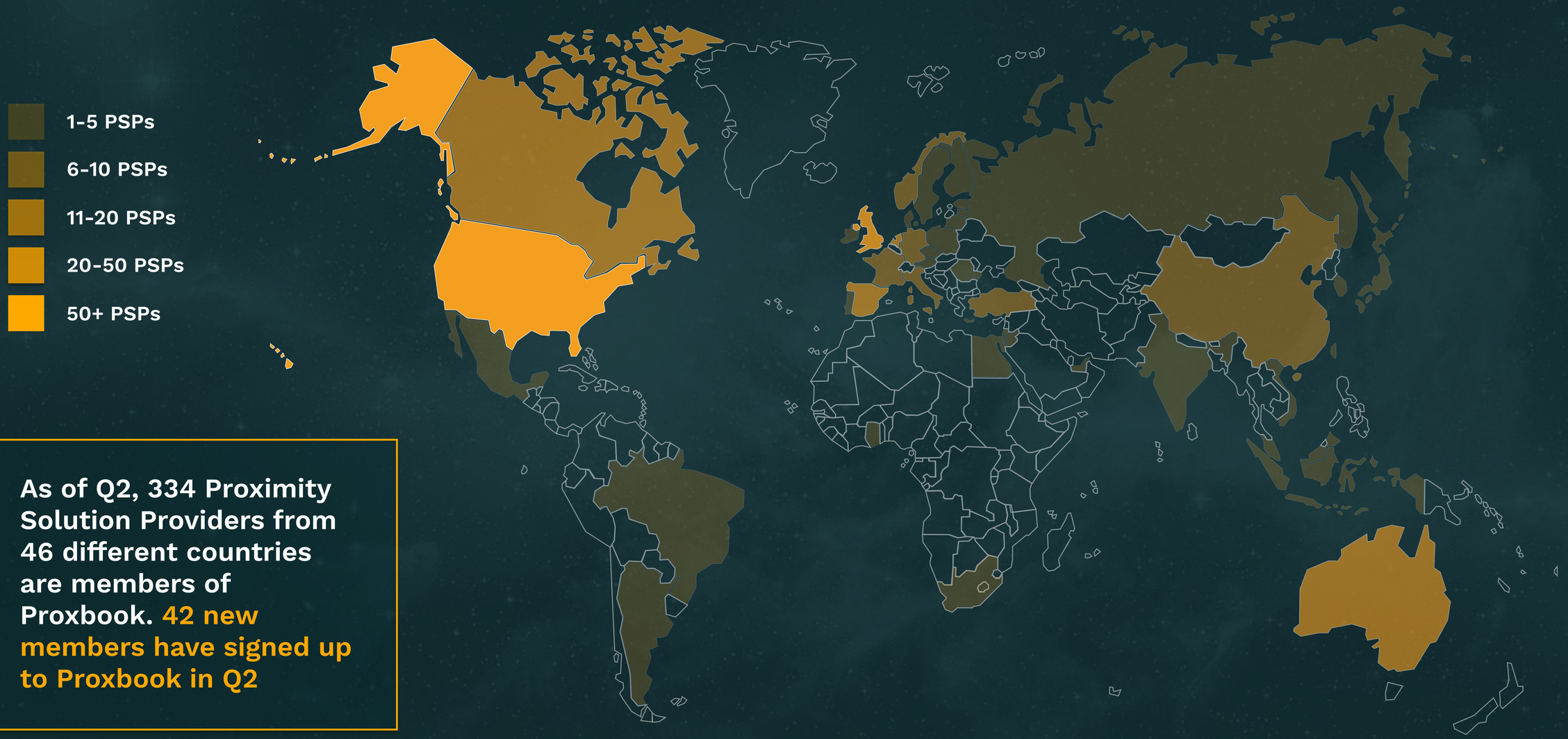
The Bluetooth Special Interest Group (SIG) announced its next release coming late 2016 to early 2017.

Bluetooth 5 will include significantly increased range, speed and broadcast capacity with the aim to transform the way people experience IoT by making it simple and seamless. The significant range extension will deliver robust, reliable IoT connections that make a wide variety of new use cases possible. The higher speed will allow a faster broadcasting of data and optimized responsiveness while increasing the transmitting capacity will push the next generation of beacons and location-based technologies. With this boost in broadcast messaging capacity, the data being transferred can be richer and more intelligent.

Bluetooth 5 will propel the adoption and deployment of beacons and location-based services in the advertising and marketing industry but also in home automation, enterprise, and industrial markets. In scenarios where contextual awareness like navigation and pinpoint location are crucial: Airport navigation, asset tracking of warehouse inventory, emergency response or smart city infrastructures that help the visually impaired to be more mobile. Bluetooth 5 enables to send useful customized information at that moment without connection and application barriers.

PROXIMITY SOLUTION PROVIDERS BY COUNTRY

Global distribution of Proximity Solution Providers (PSPs)



As of Q2, 334 Proximity Solution Providers from 46 different countries are members of Proxbook. 42 new members have signed up to Proxbook in Q2

BEACON STANDARDS

Apple yet to answer

Eddystone by Google is the most recent beacon protocol to launch - and only a year old. Eddystone can trigger URL's in smartphones as well as notifications within mobile apps and is supported on both iOS and Android. Proximity companies continue to add Eddystone support into their product portfolios, as Google is actively supporting the industry with more features.

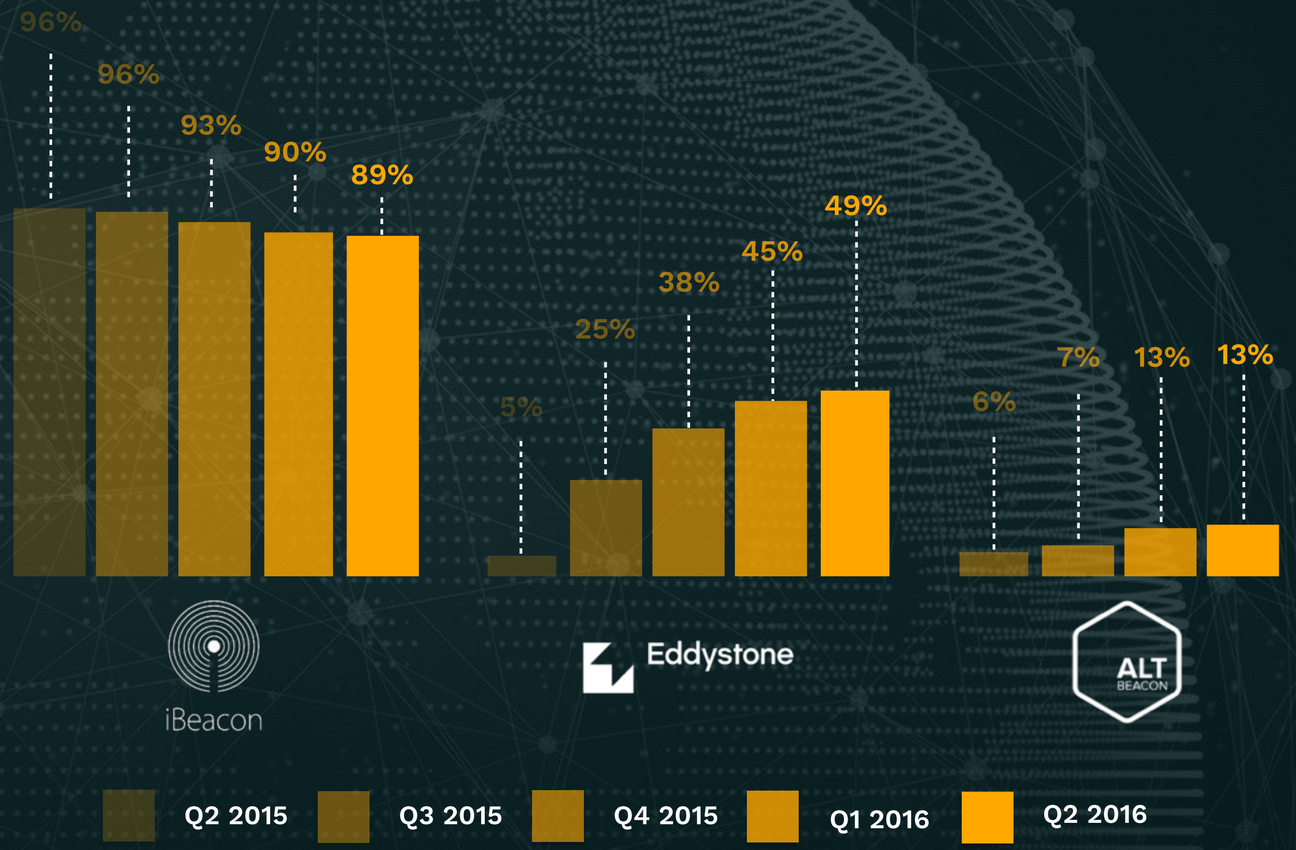
iBeacon is a beacon protocol made by Apple. iBeacon can trigger notifications within mobile apps and is natively supported on iOS. Unlike Google, Apple has not revealed any additional plans for the proximity market since the release of iBeacon in 2013. **However, it is rumored that iPhone 7 is heavily relied on Bluetooth and comes with Bluetooth 5.0 support. Could the company secretly be working on increased user adoption before launching iBeacon 2.0?**

AltBeacon, released in 2014 by Radius Networks, is an open beacon specification intended to create an open and competitive proximity industry.

As of Q2 half of the proximity industry supports the newest beacon format from Google, up from 45% in Q1

POPULARITY OF DIFFERENT BEACON STANDARDS

% of total Proxbook members supporting a beacon standard



PROXIMITY SENSORS DEPLOYED GLOBALLY

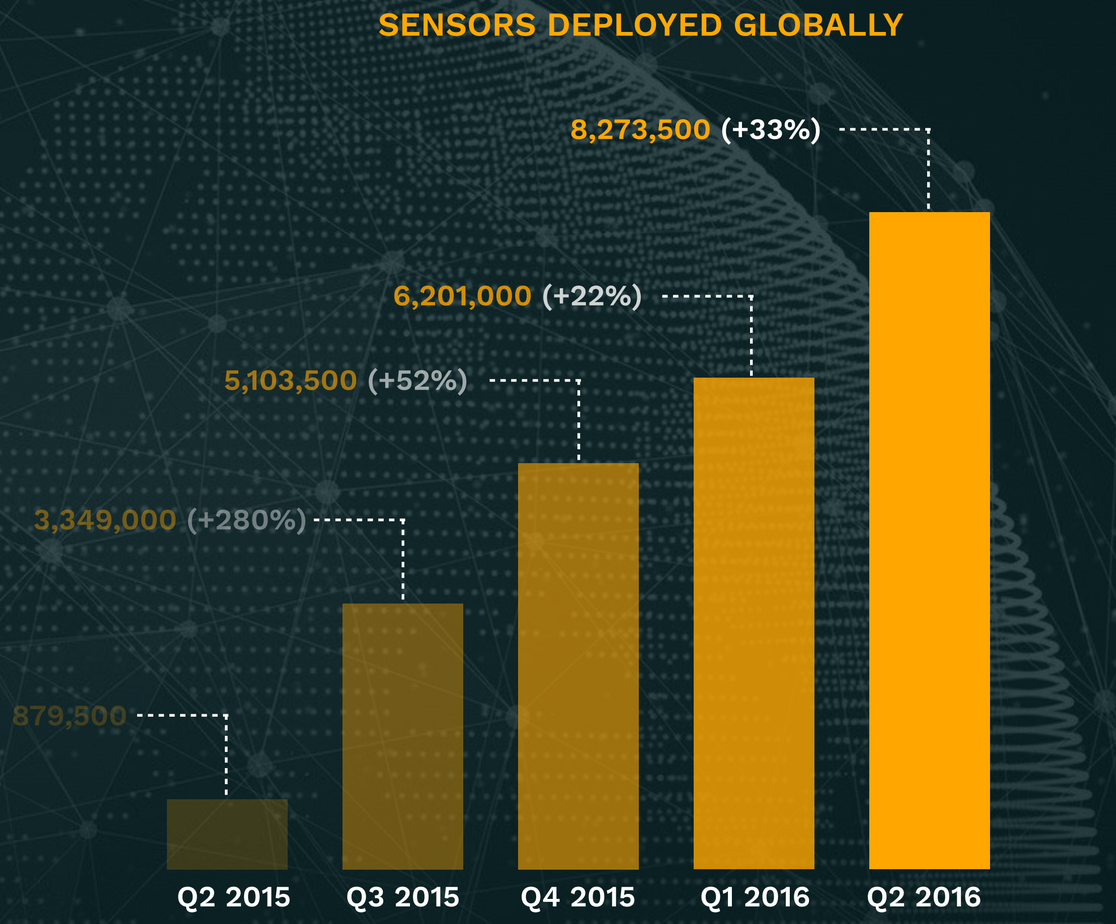
Sensor growth continues

The number of proximity sensors see a large uptake in Q2 with an **increase of 2,072,500** proximity sensors.

There are now **8,273,500** proximity sensors deployed globally registered by Proxbook members as of Q2 2016.

6,061,500 of these sensors are beacons. 2,099,000 are NFC sensors and 113,000 Wi-Fi points. Since Q1 2016, there has been an impressive 33% increase in global sensors.

There are 6,061,500 beacons deployed by members of Proxbook, which aligned with ABI Research's forecast of 8 million beacons by the end of 2016 and 400 million beacons deployed by 2020.



PROXIMITY PRODUCTS AND SERVICES

All eyes on proximity data

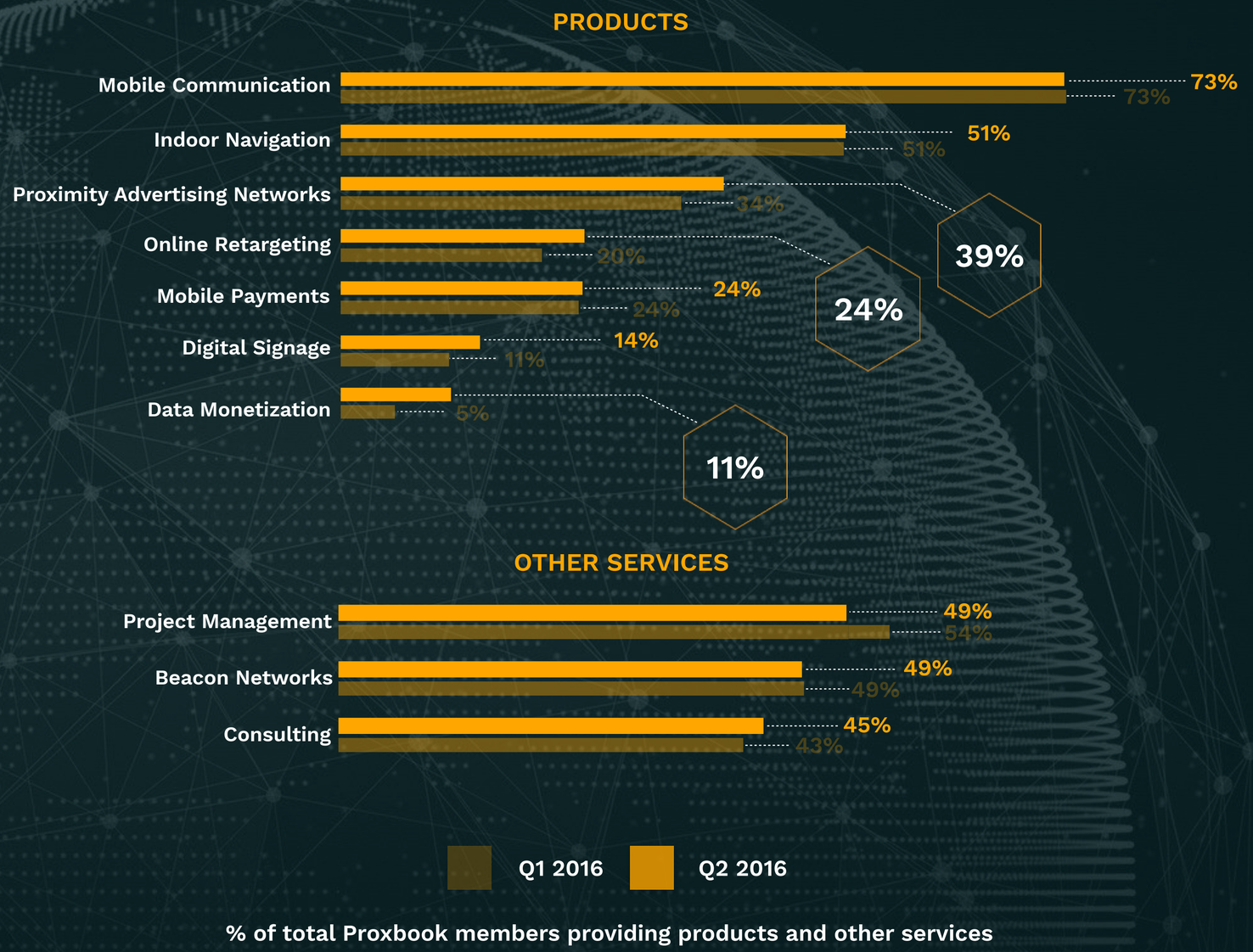
Proximity products can be categorized into 7 main categories and 3 sub-categories.

In Q2 companies have been focused on generating additional revenue through existing sensor infrastructure and proximity data.

The biggest growth has been in operating proximity advertising networks, enabling 3rd party brands to deliver hyper targeted advertising through existing sensor infrastructure.

Online retargeting and data monetization are also continuing to gain momentum, as brands are starting realize the value of advertising to customers that have visited their venue.

The clear trend in Q2 is how PSPs are maximising the value of existing sensor infrastructure and proximity data



% of total Proxbook members providing products and other services

PROXIMITY TECHNOLOGY AND SOFTWARE

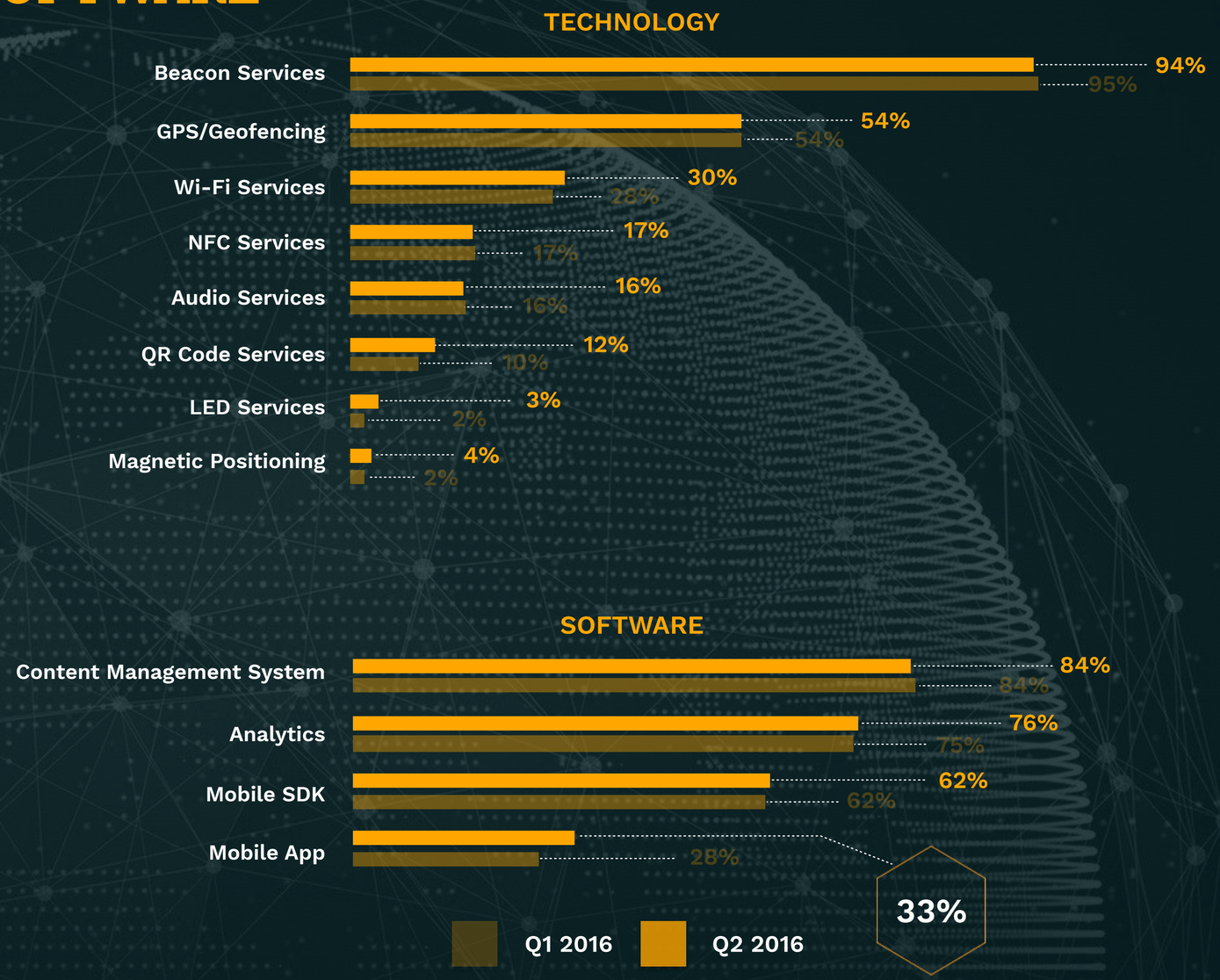
Mobile apps are starting to beaconize

There are 8 main proximity technologies that are used to offer proximity solutions and 4 categories of extra software.

One of the main challenges in the proximity industry is reach; how to increase the amount of users interacting with proximity sensors. There has been a shift from using one beacon network and only one app to using several apps.

In Q2 there has been a significant increase in mobile app companies that are tapping into proximity sensors from 28% (82 companies) of the total industry in Q1 to 33% (112 companies) in Q2. These also include companies that are focused solely on providing an app and who have started to monetize the inventory through proximity based messaging.

There has been a significant increase in mobile app companies that are tapping into proximity sensors from 28% of the entire industry in Q1 to 33% in Q2



% of total Proxbook members supporting a technology and software

INDUSTRY VERTICALS

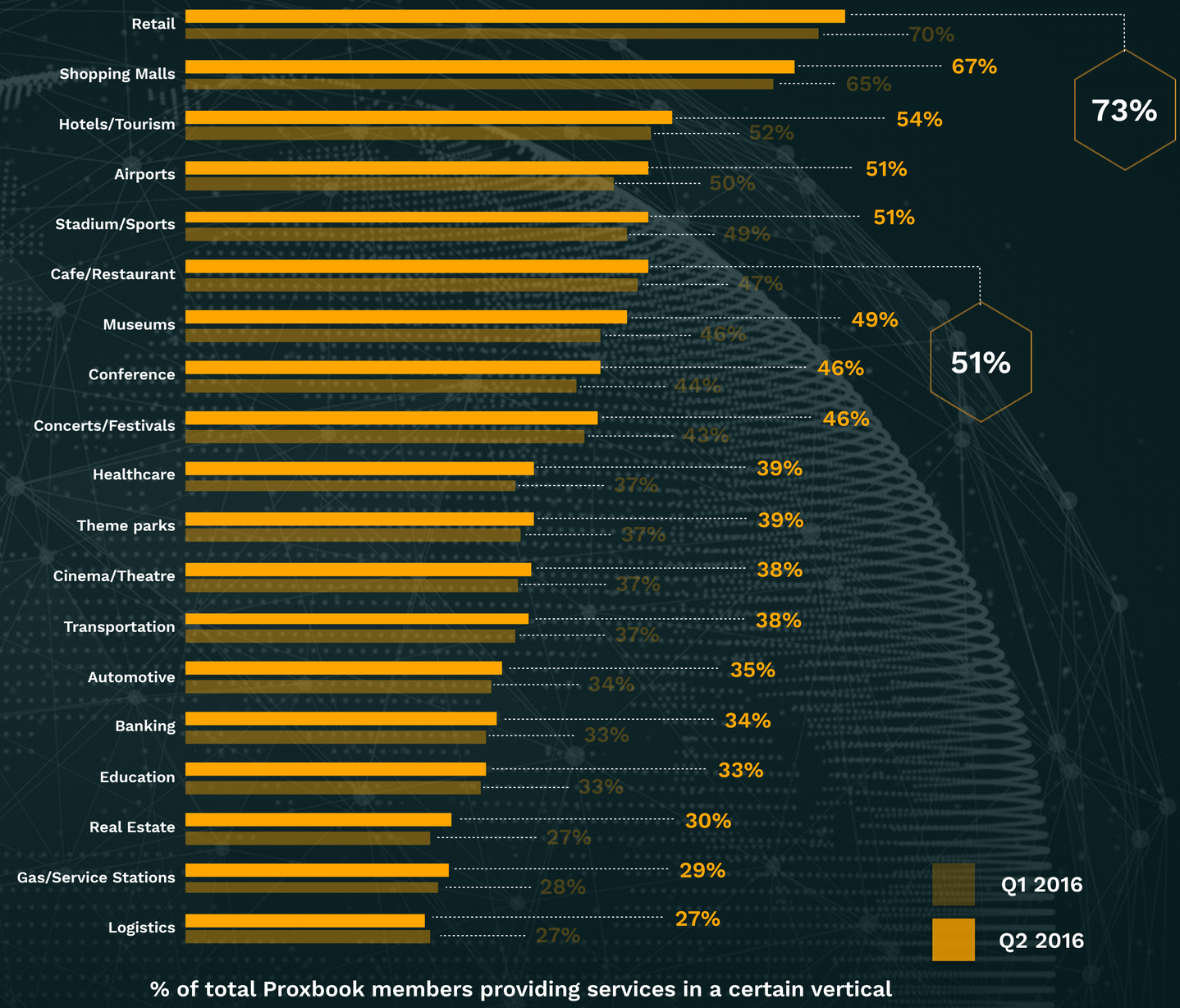
PSP's are more flexible

Proxbook covers 19 industry verticals where proximity technologies are leveraged.

Companies joining Proxbook in Q2 are focused on a wide range of industry verticals, hence the slightly increased support in every vertical. In Q1 we saw an opposite trend, where companies were focused on rather fewer industries at a time.

Focusing on certain industry verticals allows a proximity solution provider to optimize their solution for certain niche markets. At the same time focusing on many verticals at a time gives a proximity solution provider more flexibility to stay competitive.

Stadium and Sports venues are one of the most popular verticals for Proximity Solutions

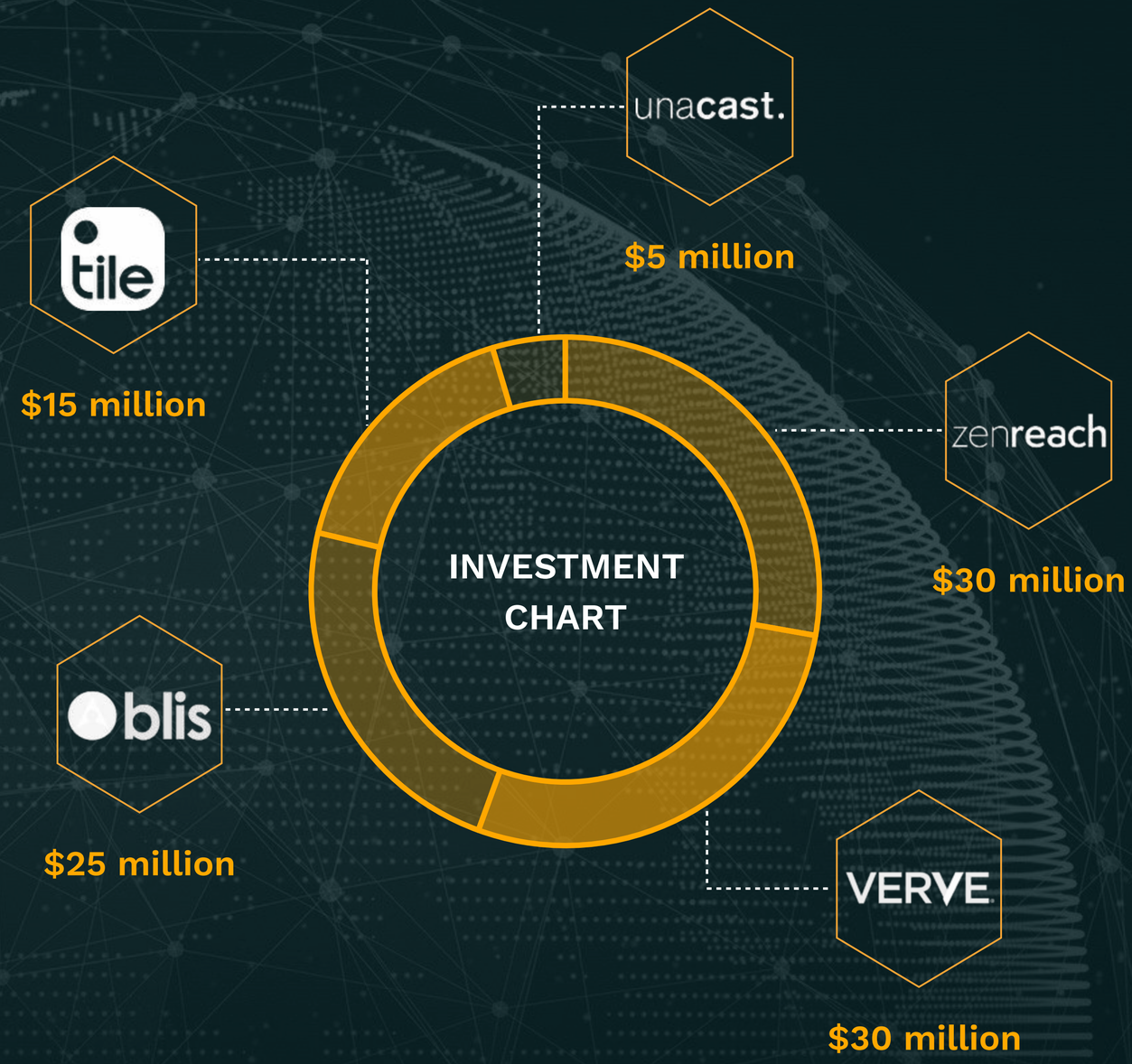


KEY INVESTMENTS

Investments into proximity and location

Location-based and proximity industry continues to be a hot topic for many investors. Key investments made in Q2 add **$105 million** to existing **$115.7 million** invested in Q1 totaling up to **$220.7 million in 2016 so far**.

Location data is here to stay and the investments made in Q2 are mainly focused towards global expansion, further product development and scaling.



Key Investments into proximity and location in 2016 total up to $220.7 million

PROXIMITY SOLUTION PROVIDERS PER COUNTRY

Europe is slightly ahead of U.S.

There are 334 Proximity Solution Providers in Proxbook as of Q2 2016 from 46 countries, **a 13% increase in providers since Q1 2016.**

The adoption of proximity technologies in the Asia-Pacific is surprisingly much lower than compared to the US and Europe with 10% of the market share.

In Q1 North America was head to head against Europe with 42% vs 43% market share. As of Q2 Europe has slightly increased the lead with 43% vs 40% in North America.

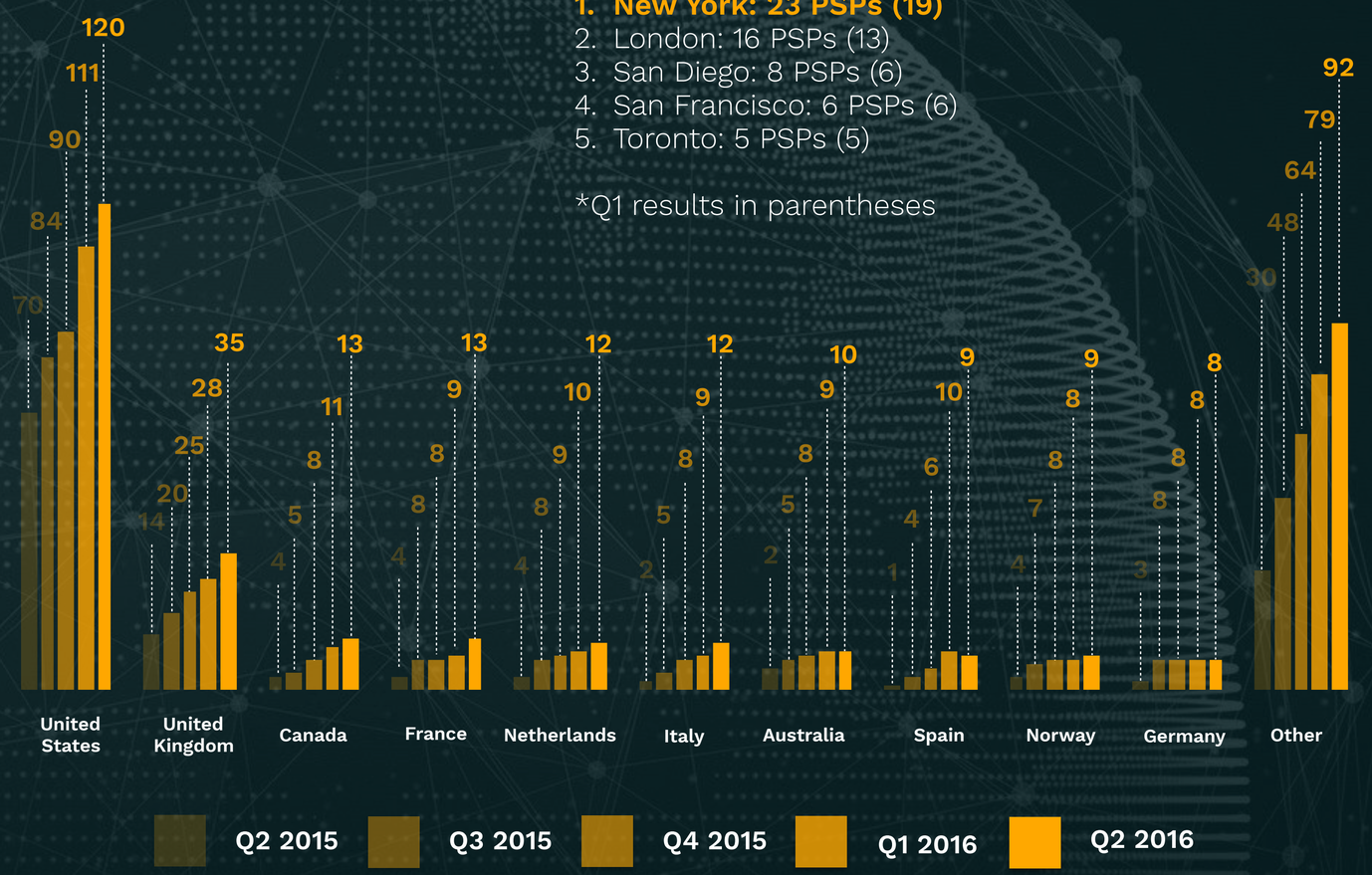
The fastest growing countries to adopt proximity are still the United States and United Kingdom.

The adoption of proximity technologies in the Asia-Pacific is surprisingly much slower than compared to the US and Europe with only 10% of the market-share

CITIES WITH MOST PROXIMITY SOLUTION PROVIDERS

1. **New York: 23 PSPs (19)**
2. London: 16 PSPs (13)
3. San Diego: 8 PSPs (6)
4. San Francisco: 6 PSPs (6)
5. Toronto: 5 PSPs (5)

*Q1 results in parentheses



GROWTH TRENDS OF PROXIMITY SOLUTION PROVIDERS

Proximity adoption is increasing

After the launch of Apple´s iBeacon in 2013, the proximity industry growth took off as **60% of the PSPs in Proxbook were founded during the last three years.** 2014 was the peak year of companies founded.

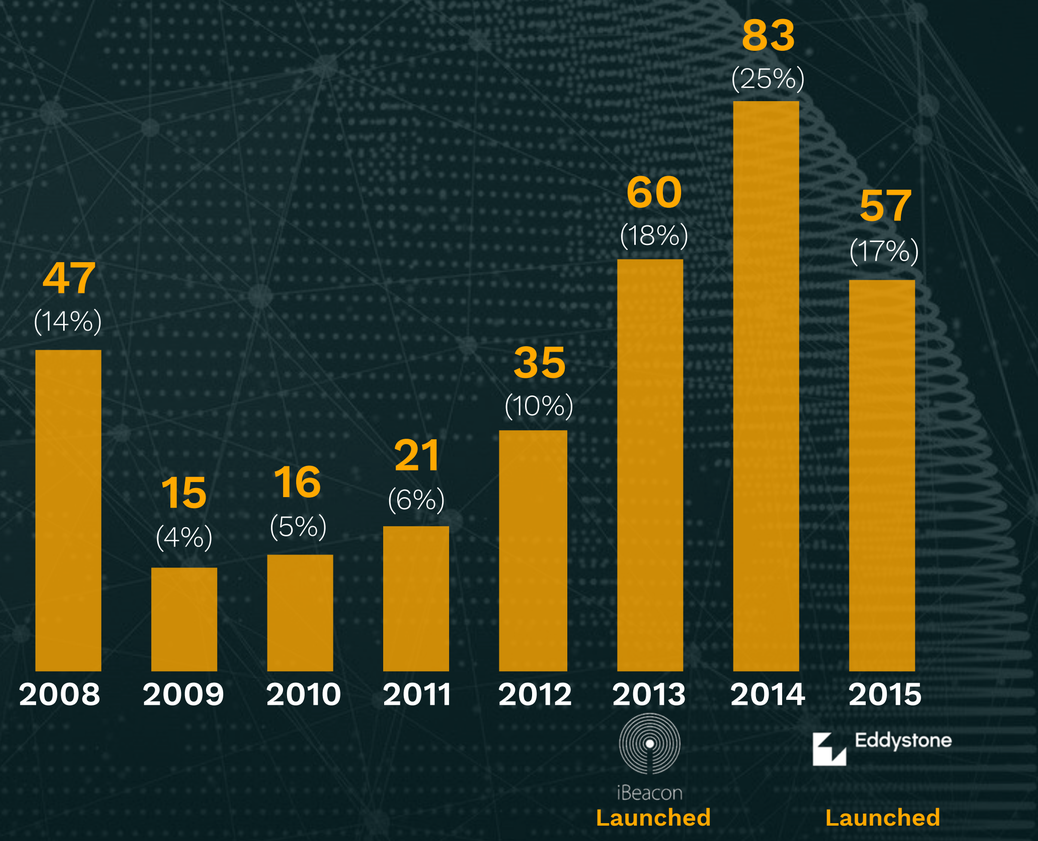
But not only new companies are driving the growth of the industry. Established companies that have been around more than 3 years, are increasingly adding proximity technologies into their product portfolios.

With Bluetooth 5.0 announced and the increasing support from Google, we will likely see a number of new players coming into the industry, discovering new verticals as well as complementing existing ones.

More established companies are adding proximity solutions into their existing product portfolio's

PROXIMITY SOLUTION PROVIDERS BY YEAR FOUNDED

% of total Proxbook members founded by year



CATEGORIES OF PROXIMITY SOLUTION PROVIDERS

There are 5 categories of proximity companies

156 companies are focused on providing a **proximity platform**. A proximity platform consists of a content management system, analytical dashboard, a mobile app for consumers and a mobile SDK. A proximity platform is used to offer products like mobile communication, proximity advertising networks, data monetization, indoor navigation, digital signage, online retargeting and mobile payments. Examples of proximity platforms: Footmarks and Plot Projects.

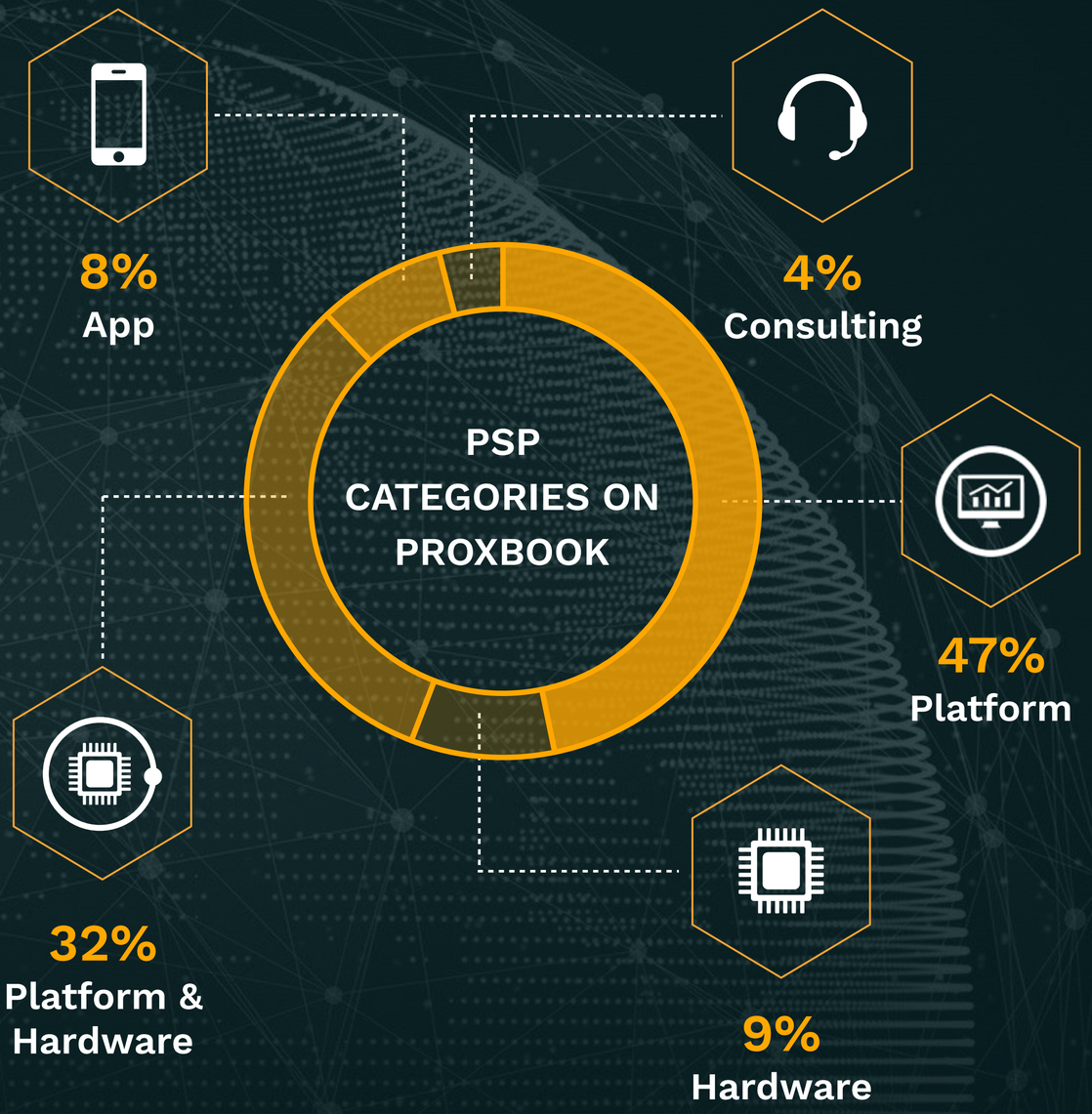
29 proximity solution providers focus mainly on **hardware**. A proximity hardware provider typically provides beacons, NFC, Wi-Fi, RFID or other sensors. To manage the hardware, tools for fleet management and SDK's are provided. Examples of proximity hardware providers: Kontakt.io and Estimote.

108 members of Proxbook provide both a **proximity platform and hardware**. Examples of platform and hardware: Signal360 and Gimbal

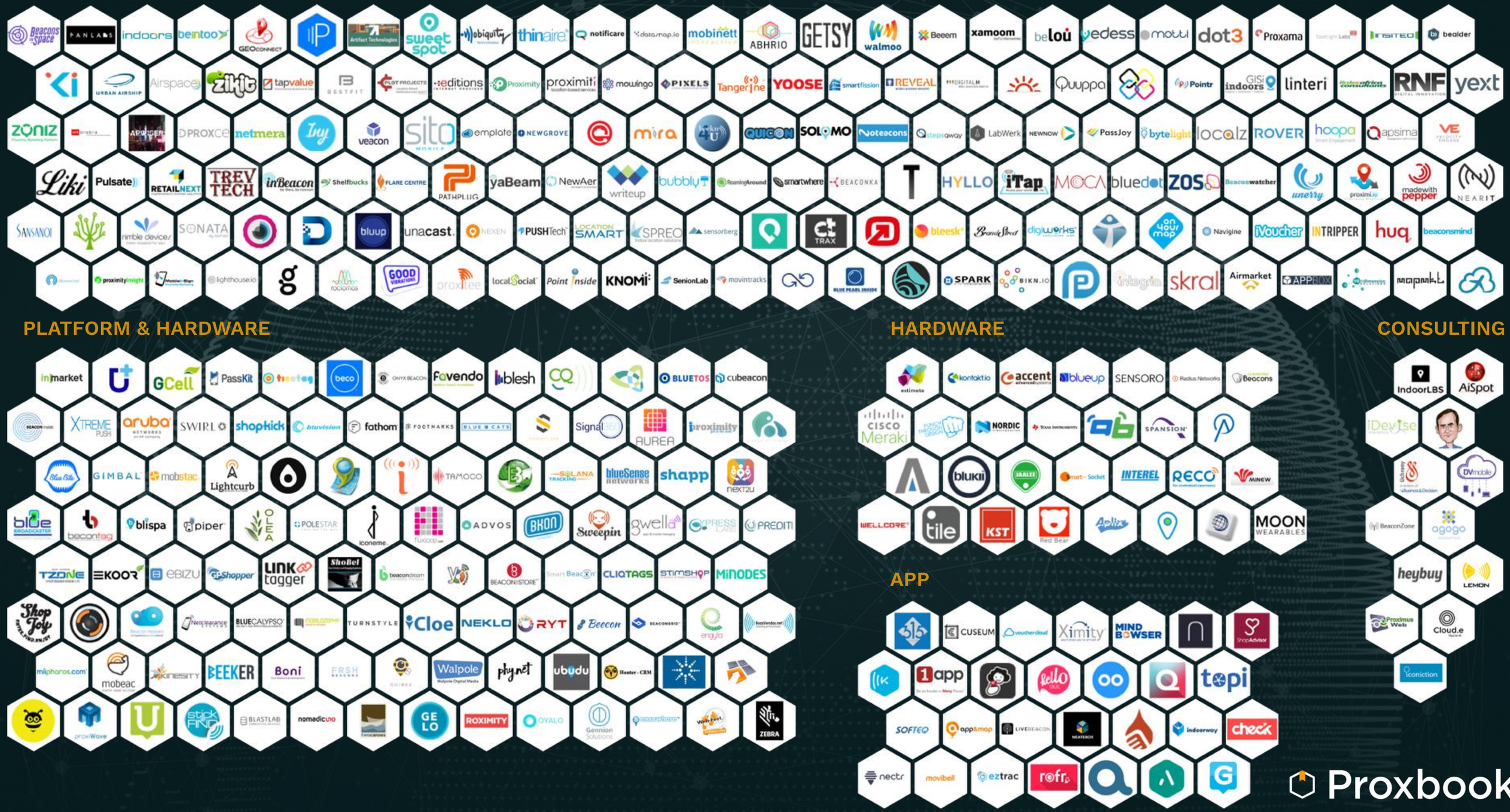
28 members focus on providing and distributing **proximity apps** (which are essentially proximity platforms). Examples of apps: ShopAdvisor and Check.

14 companies focus on proximity solution consulting such as Statler Consulting and HeyBuy.

Proximity Solution Providers can be divided into five main categories. See the Proximity Ecosystem on the next page for a detailed breakdown



THE PROXIMITY ECOSYSTEM



METHODOLOGY

The Proxbook Report is published quarterly

The Proxbook Report is based on data from Proxbook as of July 1, 2016. The report is conducted by Unacast. Data and information have been submitted by Proximity Solution Providers (PSPs).

The amount of sensors deployed on page 32 is based on a number range (e.g. 50-100) submitted by the PSPs where the average of the range (e.g. 75) has been used to calculate the numbers of sensors deployed.

Proxbook was launched in June 2015 by Unacast, in cooperation with the Location Based Marketing Association and Statler Consulting LLC (Stephen Statler).

The Proxbook Report is published quarterly, **download previous reports here.**

You can contact us at info@proxbook.com

PARTNERS

ABOUT UNACAST

Unacast is the world's largest proximity and beacon data platform

With **1,8 million beacons** and **56 partners**, Unacast is the world's largest platform of beacon and proximity companies and proximity data, connecting the physical world to the digital world.

Through the Unacast PROX network, Unacast enables a scalable solution for brands to use beacon and proximity data for online retargeting, attribution and monetization.

Online marketing is mostly based on whatever online trails the consumer leaves behind and how well are you able to leverage that information. However, online presence accounts only for 30% of the entire customer journey. At the same time, the world is being rapidly "sensored up" with beacons and other proximity technologies collecting data about customer's offline behavior, which accounts for the remaining 70%. The data is however extremely fragmented and siloed between more than **500 companies**.

Unacast is the backend of proximity that aggregates and provides a unified platform for the proximity and advertising industry, solving the fragmentation problem to the benefit of both the supply and demand side.

We are the first company to enable a scalable way for retailers and brands to retarget customers online based on behavior in the physical space.

Visit us at **www.unacast.com** to learn more, and to sign up to PROX.

unacast.

*EXTRA - ANALYSIS OF PROXIMITY TECHNOLOGIES IN SPORTS

By Stephen Statler author of Beacon Technologies: Hitchhiker's Guide to the Beacosystem Book

	SCOTSMAN	Criteria
S	Solution – Does proximity technology provide a solution to the customers' problem? Yes	The biggest competitive threats to persuading sports fans to attend games at stadiums is the competition from a comfortable couch, the availability of cheap food and drink at home and a high definition screen with excellent visibility. Beacons offer the ability to create compelling experiences that make visits less stressful by assisting with navigation, optimizing operations and lifting sales from concessions. The value of the solution is proven by the fact that location-aware apps are being deployed at almost every professional sports stadium in the US. Many are implementing their second generation of technology, having learned from initial projects
C	Competition – Are there strong alternative solutions? No	Mobile apps have an increasingly important role as part of the stadium experience. There is very little to compete with the smartphone-based experience enhanced with proximity and location technology
O	Originality – Is there something novel about what proximity can offer? Yes	Smartphone solutions are a lot cheaper than providing devices to visitors, they can optimize efficiency and increase satisfaction with line busting and navigation solutions while layering on digital experiences to compete with TV using a device that is pervasive and familiar
T	Time – How long will it take to deploy? What's the time to revenue? Fast	While stadiums are huge (as many as 150,000 seats @ Pyongyang in North Korea), there aren't very many of them (less than 2,500 in the USA) especially if you consider professional sports (30 Major league baseball stadiums, 33 National Football League stadiums). Rollouts are lot quicker than in retail where there are millions of stores. Large chains like Walmart have over 4,000 stores and McDonalds has over 60,000, each with their own managers and logistical issues. No surprise that some of the Beacosystem's first rollouts were at MLB / baseball stadiums
S	Size – Is this a big market? Big, but not the biggest	Stadiums are big, but other verticals like airports, malls, gas stations and even the US's 4.6 million vending machines have more visitors. 130 million spectators attended a professional NFL, NBA, MLB, NHL, or MLS game in 2013, another 82 million attended college football and basketball (NCAA, 2015). One airport, Atlanta airport hosted over 100 million passengers in 2015. Stadiums are big, and season ticket sales boost numbers reliably, but actual attendance can be problematic. NFL teams average 67,604 fans a game, MLB 30,514 and NBA 17,407. Sports are seasonal and games aren't played every night. While concerts can fill some of the gap, the apps used at these events may be different to the sports apps
M	Money – Is there budget to pay for the solution? Yes	With average ticket prices at $28 for MLB games, $85 for NFL , and $54 for NBA there is enough money flowing over ticket counters to fund infrastructure deployments of beacons that can range from 50 to 1,500 beacons per stadium (e.g. 1,200 Aruba beacons at Levi Stadium a 68,000 seat venue)
A	Access – frequent users will not have access to the solution	Most people fly, buy gas and visit the mall more frequently than they visit sports stadiums. According to the US Census, 0.9% of adults go to an MLB game regularly 0.46% go to an NBA game frequently, college football comes out top at 1.33%. One off visits can raise awareness and create buzz, which is not to be discounted when seeding new technology, but consumer adoption (versus venue adoption) only comes with frequent usage
N	Need – Does the customer have a compelling need? Yes	The customer for beacons is the venue owner and attendance numbers are in decline, it's hard to raise ticket prices without impacting attendance. Beacons can drive more revenue at concessions, mitigate issues that deter people from attending and make the experience more fun. If you are selling to venues, consider a flat fee structure rather than an active user model in order to maximize your revenue

REQUEST REPORT IN EXCEL

Get access to further data and detailed graphics by getting in touch at info@proxbook.com