

# INDOOR NAVIGATION

Service for indoor navigation on forums and exhibitions

**Total interviews:**

12 with customers

19 survey results from users



**Indoor navigation market \$6.1B 2020 - \$17.0B 2025**

**WHEN people visit exhibitions,**

**Visitors WHO came for networking , business and entertainment,  
HAVE problems with finding people and places.**

**BECAUSE OF THIS, THEY FEEL LOST and STRESSED, THEN They  
waste time, try to navigate, ask for help.**

**CURRENTLY, THEY USE**



**DESPITE inconvenience, ineffectiveness.**

# Our Team



**Timur Chikichev**

Robotics, signal processing  
Business model development  
[timur.chikichev@skoltech.ru](mailto:timur.chikichev@skoltech.ru)



**Nikita Grunt**

Heat Physics  
Discovery plan, business  
model, product design, website  
[nikita.grunt@skoltech.ru](mailto:nikita.grunt@skoltech.ru)



**Behnoosh Meskoob**

High-frequency system and circuit  
design  
Technology selection, market and  
financial analysis  
[behnoosh.meskoob@skoltech.ru](mailto:behnoosh.meskoob@skoltech.ru)

# Our Team



**Pavel Kopanev**

Robotics, full-stack development  
Customer discovery, business  
model development

[pavel.kopanev@skoltech.ru](mailto:pavel.kopanev@skoltech.ru)



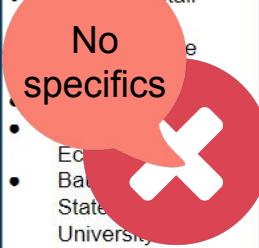
**Saian Protasov**

Software development,  
robotics, fluid physics  
Preliminary design  
[saiyan.protasov@skoltech.ru](mailto:saiyan.protasov@skoltech.ru)

# BMC rev 0; Initial Idea and Opportunities

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
<ul style="list-style-type: none"> <li>• Crocus Group</li> <li>• Skolkovo</li> <li>• АО “ЭКСПОЦЕНТР”</li> <li>• Exhibition Halls of Moscow</li> <li>• Ministry of Culture of the Russian Federation</li> <li>• O'KEY Group</li> <li>• Lenta Ltd</li> <li>• Auchan Retail Russia</li> <li>• Moscow State University</li> <li>• Skoltech</li> <li>• Higher School of Economics</li> <li>• Bauman Moscow State Technical University</li> </ul>	<p>Propose navigation method with cheap implementation (beacon system, sensors, mapping principles, interaction with people)</p> <p>Implement chosen solution (hardware, software: web application, map editor, full stack development)</p>	<p>Service which provides solution for indoor navigation inside the building (in complex environment) and distributed (on the map) information about current activities or events. It is simple for user and easy to install for potential customers</p>	<p>System deployment options and scaling. Flexibility in terms of implementation</p> <p>Good service and maintenance</p> <p>Advertising companies</p>	<ul style="list-style-type: none"> <li>• Exhibitions</li> <li>• Hospitals</li> <li>• Universities</li> <li>• Schools</li> <li>• Museums</li> <li>• Shopping malls</li> <li>• Festivals</li> <li>• Transport terminals</li> <li>• Business centers</li> </ul>
<b>Key Resources</b>			<b>Channels</b> <ul style="list-style-type: none"> <li>• Smartphone integrated           <ul style="list-style-type: none"> <li>◦ App</li> <li>◦ Web-app</li> <li>◦ Chat-bot</li> </ul> </li> <li>• Hardware solution</li> </ul>	<p>Benefits: meeting with people, navigation, customer managing</p>
<b>Cost Structure</b> <p>Employees work hours, hardware and software development, R&amp;D Software modifications, legacy code support, high computing technologies (VR/AR), customer acquisition and advertising costs</p>	<b>Revenue Streams</b> <p>Advertising systems, interactive ads with personalisation, app monetisation</p> <p>System deployment, maintenance</p> <p>Service with subscription option</p> <p>The current market is low for existing solutions</p>			

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# What We Did

## Customer discovery

### Customer Journey

The Customer Journey map illustrates the customer's path through Awareness, Consideration, Decision, and Retention stages, with specific touchpoints and feedback loops.

**Customer Steps:**

- Awareness:** Try to find a solution for customers' navigation.
- Consideration:** Search for different solutions or better recommendations.
- Decision:** Download a trial application, check their website, brochures.
- Retention:** Find the best solution.

**Friction Points:**

- Awareness:** Available options such as brochure or info stands.
- Consideration:** Other available solutions are more well-known.
- Decision:** Marketing department.

**Interaction with customer:**

- Awareness:** Marketing department.
- Consideration:** Marketing department.
- Decision:** Technical department to offer solutions.
- Retention:** Marketing department.

**Systems & Objects:**

- Awareness:** Website.
- Consideration:** Website.
- Decision:** Mobile App (SDK for Android/iOS), Hardware Solutions.
- Retention:** Mobile App (SDK for Android/iOS), Hardware Solutions.

**Actions:**

- Awareness:** Advertisement.
- Consideration:** Info packages on website.
- Decision:** Use-case demonstration.
- Retention:** Promote various SW & HW solutions for test.

**Internal Teams:**

- Awareness:** Marketing department.
- Consideration:** Marketing department to offer solutions.
- Decision:** Technical department to offer solutions.
- Retention:** Marketing and sales department.

**Systems & Objects:**

- Awareness:** Website.
- Consideration:** Contact, follow-up by meeting, phone and email.
- Decision:** HW & SW provision.
- Retention:** HW & SW installation and implementation.

## Market research

	Awareness	Consideration	Decision
<b>Customer Steps</b>	Try to find a solution for customers' navigation	Search for different solutions or better recommendations	Download a trial application, check their website, brochures
<b>Friction Points</b>	Available options such as brochure or info stands	Other available solutions are more well-known	Marketing department
<b>Interaction with customer</b>	Marketing department	Marketing department	Technical department to offer solutions
<b>Systems &amp; Objects</b>	Website	Website	Mobile App (SDK for Android/iOS)

## Business model

The Business Model Canvas provides a visual representation of the business model, divided into three main phases: Get, Keep, and Grow.

**Get:**

- Mobile App (SW)**: Negotiation with exhibition places holders, Negotiation with exhibition organizers, integration with their networking tools, External network of contacts ([expoman](#)).
- Hardware (BLE anchors)**: Online and search engine marketing (ads and demos on YouTube), Share demo and explore demos to the potential customer, Consider other markets (retail, malls, amusement parks).
- SW and HW Integration**: Flexibility and good maintenance, Work fast and in a very short time, Individual approach to each customer.

**Keep:**

- Mobile App (SW)**: After-sale services, Improve service by including new key features, Expand available distribution channels.
- Hardware (BLE anchors)**: Give more flexibility to specific customers in configuring the mobile app SDK, Get into new markets, Referral system, Further brand development.

**Grow:**

- Mobile App (SW)**: Provide discount code for loyal customers, long-term brand promoters, Offer various products for any budget, Provide new and customized features.
- Hardware (BLE anchors)**: Fully Responsive, Always Ready, Easy to Use.

**KEY PARTNERS:** **Key Activities:** **Value Proposition:** **CUSTOMER RELATIONSHIPS:** **CUSTOMER SEGMENTS:** **CHANNELS:** **KEY RESOURCES:** **REVENUE STREAMS:**

## MVP and Website

**Fully Responsive Design**  
When you visit our site, you know it would work much convenient on any device, whether it's a phone, tablet, or desktop, the service will behave responsively!

**Fully Responsive**  
This service will work great on any device, no matter the size!

**Always Ready**  
Full-time support!

**Easy to Use**  
Ready to use with your own content!

**Indoor Navigation**

We will help you guide customers through any building!

Enter your email... [Sign up](#)

**Fully Responsive Design**  
Designed for efficiency  
Newly improved, and full of great utility classes!

# What We Learned



- Gulnara, director of EcoCityExpo Autumn 2020



- IndoorAtlas, ex member of working team



- Anna, clients manager of [Hive Group](#), [TransRussia](#) forum

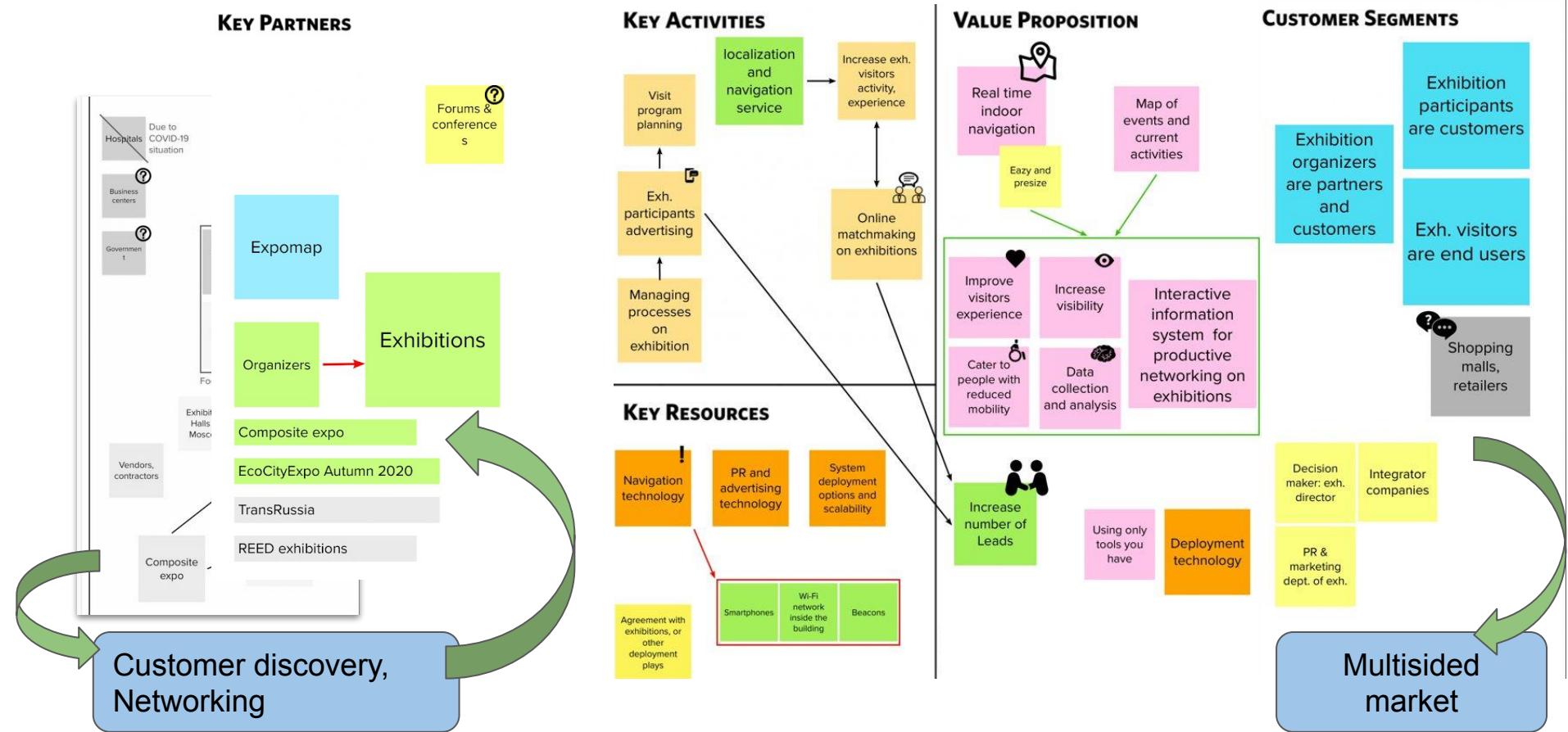


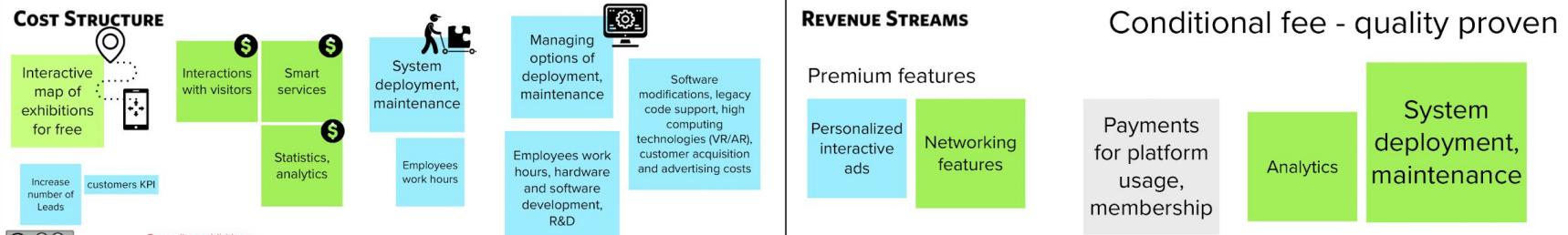
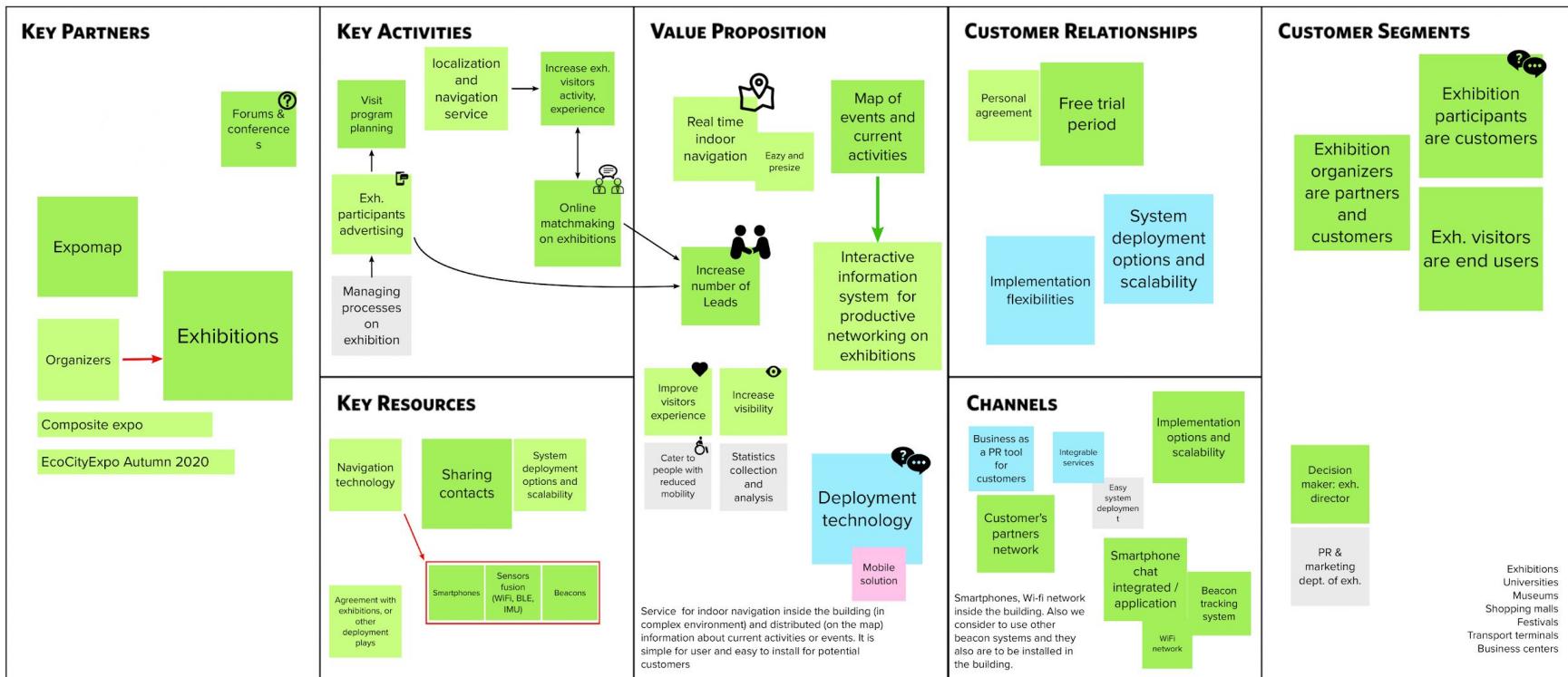
**МЕТАЛЛ  
ЭКСПО**

# Hypothesis Tested

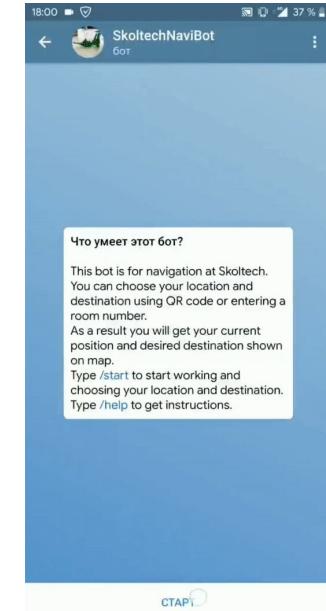
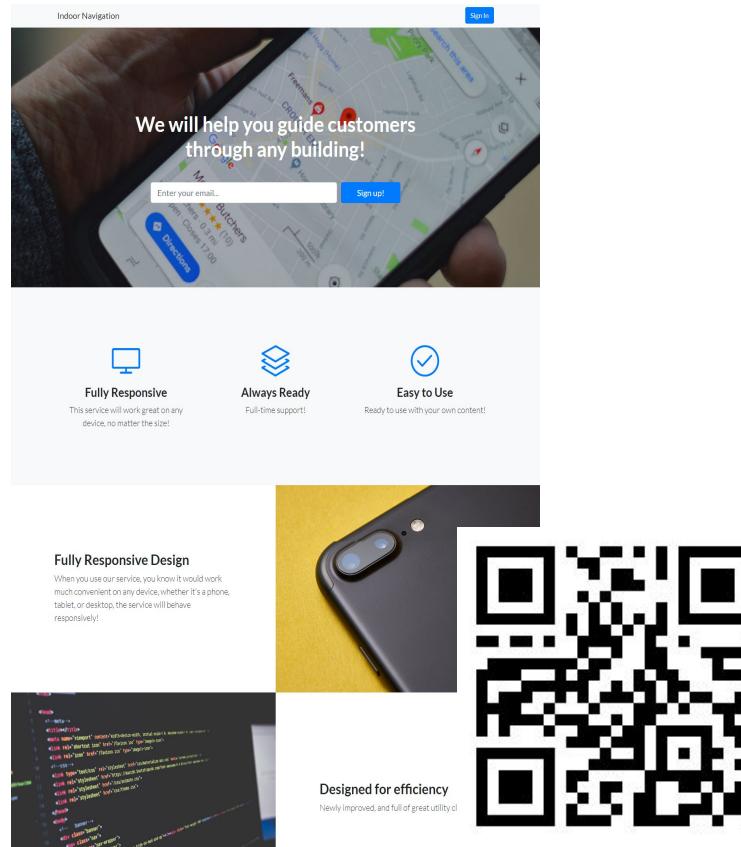
Indoor navigation system is <b>suitable for exhibitions</b> , forums and conferences	Proved to be correct. The solution is suitable for: <b>social events + business centers + museums.</b>
It's possible to <b>increase a number of leads</b> with our product	Proved to be correct, our product is suitable to be a “business card” of an event
Indoor navigation system <b>for exhibitions</b> is suitable to <b>make profitable ads</b>	The idea was declined and not relevant any more. Ads are not our part of responsibility (PR dept.)
<b>Easy to use</b> for organizers and end-users	Yes, but it will always remain our goal to improve our idea in the way to ease visitors' navigation inside the social event (exhibitions, forums) or in shopping malls
Permanent solution ( <b>agreement</b> with exhibition place holders) is the best option (no need to <b>sale product multiple times</b> )	After making a customer discovery we found out better solution is to make agreements with <b>exhibition organizers</b>
We have to produce our own hardware system for indoor navigation	We can use existing components to build the system

# BMC Adjustments





# Here We Are Now



# Customer Archetype

## Customer archetype (exhibitions)



### Name

Fateev Konstantin

### Profession

Director Composite Expo



### Customer quote

You must prove effectiveness in all respects  
We are interested in advertising and improving communication between customers and participants



### Needs, wants & expectations

Main success criteria is the number of contacts of participants with customers and the number of special visitors



### Bio

For several years organizer and director of Composite-Expo and Mir-Expo



### Motivations & attitudes

He is interested in innovation and modern solutions which could improve visitors experience



### Relevant jobs to be done

A clear understanding of the benefits and value of the product, its effectiveness



### Frustrations with the current solutions

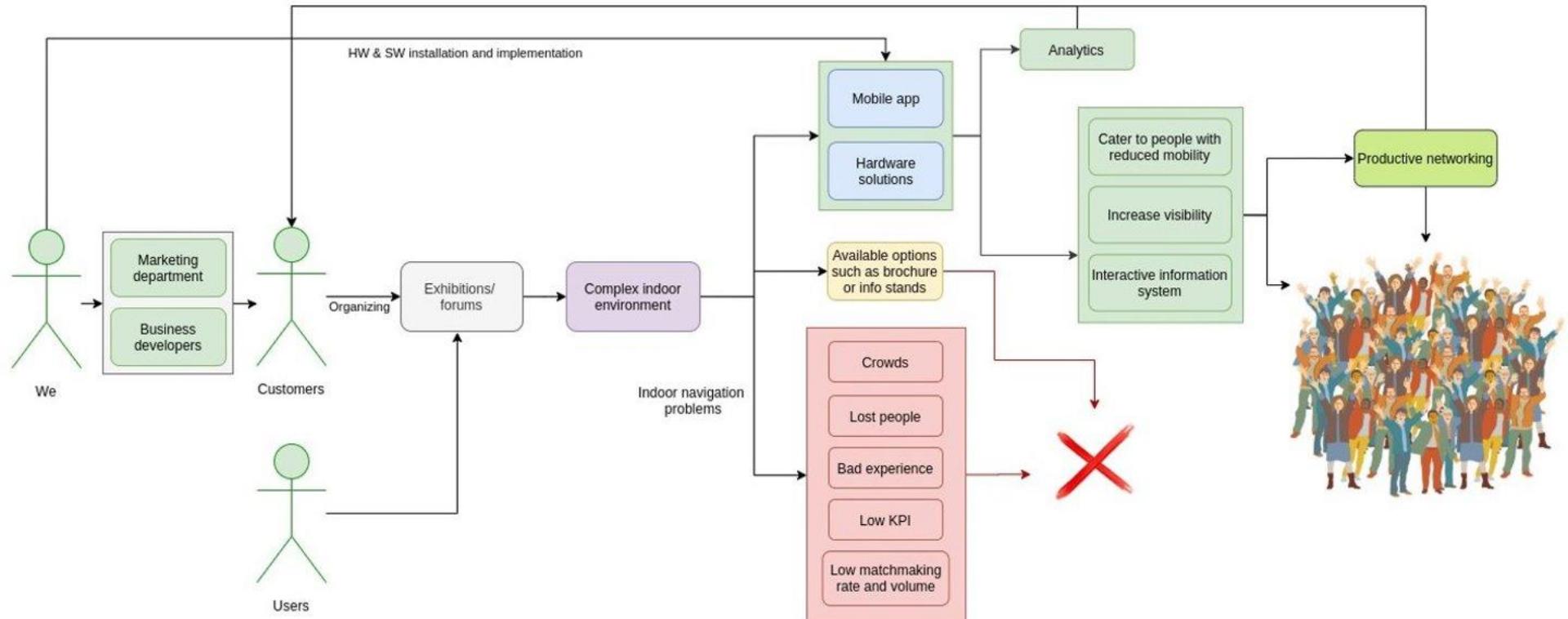
He admits that there is a problem with logistics and coordination. Also, current navigation solutions could be improved



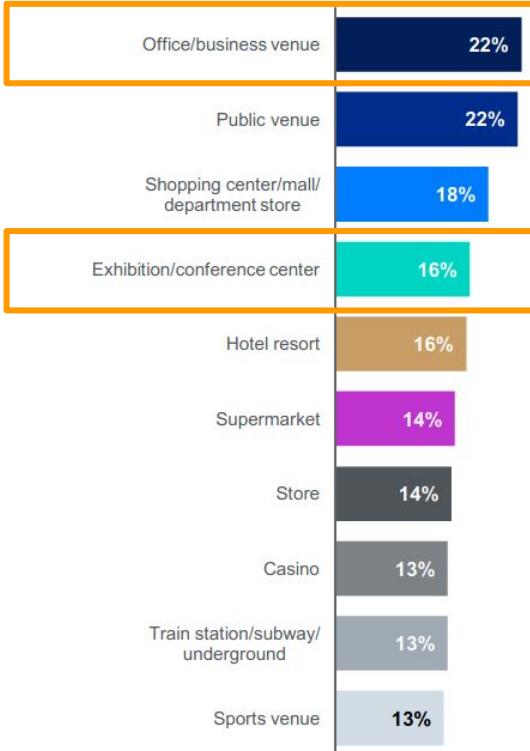
### Channels

He likes solutions that are easy to implement and that are effective

# Customer Workflow Diagram



# TAM/SAM/TM



**\$6.1B 2020 - \$17.0B 2025**

Networking, Asset tracking, Location-based advertising, Shopping assistance, Museums, fairs, airports, guided tours. School, university campus, Hospitals, healthcare, Ambient Assisted Living (AAL), Emergency response and rescue Management, Robotics, Indoor sports, Smart home, Augmented reality

**TAM**

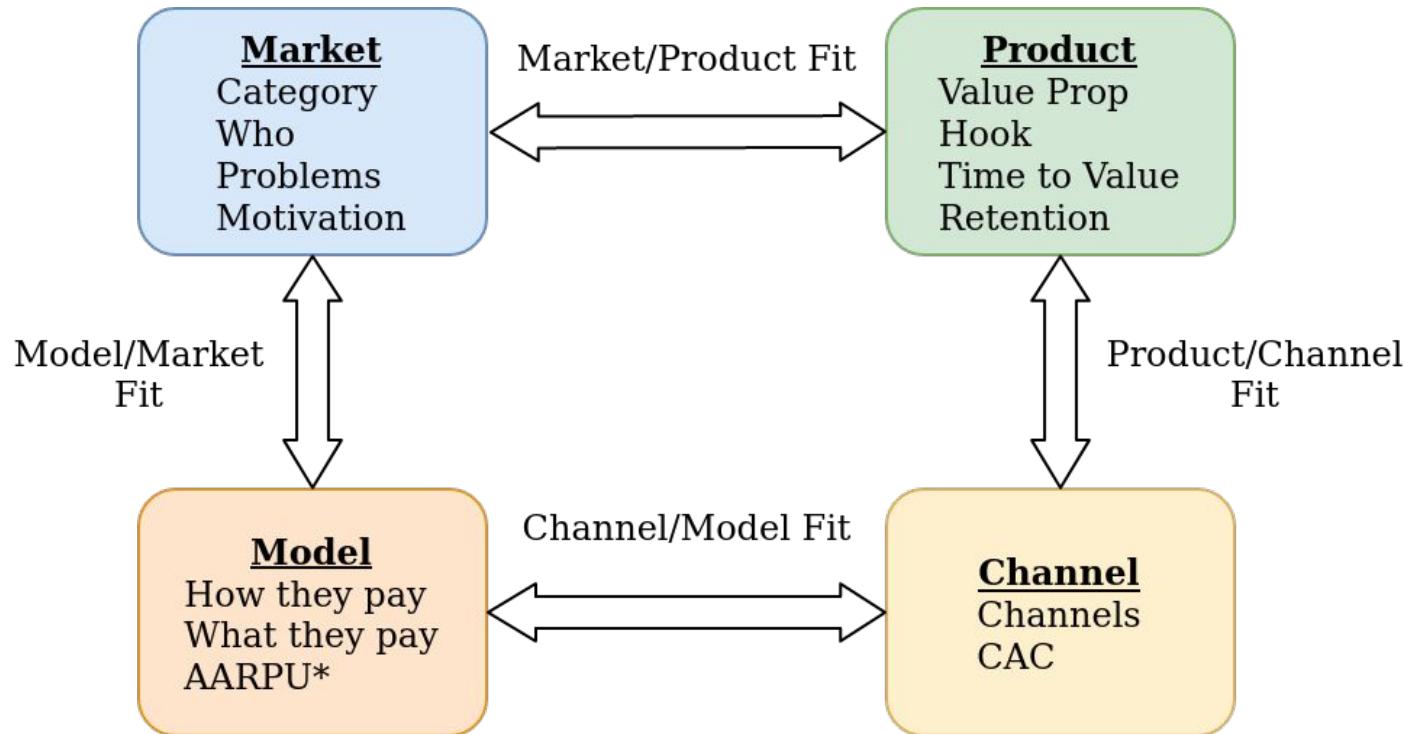
Exhibitions/ Forums, Networking,  
Shopping assistance

**SAM**

Exhibitions/  
expo centers

... - \$6.5B 2025

# Four Fits Canvas (FFC)



Ref.:

<https://brianbalfour.com/essays/hubspot-growth-framework-100m>

\*AARPU: Average Annual Revenue Per User

# Market-Product Fit (MPF) Progress

Steps to reach strong MPF:

1. Determine the target customer ⇒ Done
2. Determine underserved customer needs ⇒ In progress (we're doing customer surveys)
3. Define value proposition ⇒ Initial steps, under progress
4. Specify MVP feature set ⇒ Initial steps, under progress
5. Create MVP prototype ⇒ To be started
6. Test MVP with customers ⇒ To be done in the next 3 months
7. Iterate to improve Market-Product Fit ⇒ Hopefully will be finished in next 9 months

# Revenue Model Diagram



- Asset Sale
- Providing Data
- Hardware renting and installation

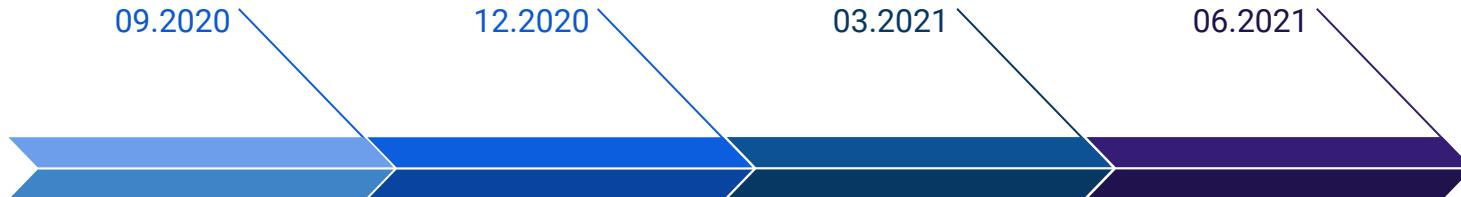
- Software dev
- Real-time support on HW and SW
- Company location and info
- Contact info of visitors
- Visitors activity tracking
- Traffic distribution
- Unlocking premium features
- Number of devices to rent
- Mounting and dismounting of HW

## Path Decision: Continue Customer Discovery

### Rationales:

- COVID-19 and all populated gatherings are forbidden until further notice
  - More customer discovery ⇒ more is needed
  - Polish the BMC, MVP, Revenue model, continuous MPF
  - Establish partnership with a company for hardware supply
  - Make strong network of connections to reach the main players and customers  
(We need to acquire customers in a differentiated way that scales)
  - Solid plan for the “multi-sided” and “resegmented” market and B2B2C model
- ⇒ Market-Product Fit Discovery

# Our 3/6/9/12 Plan



Customer Discovery	Connections, BMC, Partnership	Ready to Launch, First Contract	Contracts across the country, make International Cooperations
Reach >100 Customers	Find Efficient Connections	Finalize App SDK (Android & iOS) and integration with HW+ Demo to potential customers	National and <b>International</b> Marketing and networking
Finalize the pain points	Finalize BMC & all segments	MPF refinement	Increase team size, Revenue, Traction and <b>Monetization</b>
Select potential partner for HW supply	<b>Partnership</b> for HW supply	Have a booth in min 2 relevant exhibitions for Demo and marketing	Keep Customers, loyalty programs and grow by new customers
Develop app SDK + Integration Tests	Participate in Exhibitions to drive tests and demos	Hunch the first customer(s), get ready for future customers	Expand the market to other <b>verticals</b>
Market-Product Fit (MPF)	Find Sponsors/Investors (pre-seed)		Venture Capitals
Demo Plan Scenarios	Website Completion, Marketing Campaign Strategy		
Participate in competition			

# Thanks!

Contact us:

*Timur Chikichev:*

[timur.chikichev@skoltech.ru](mailto:timur.chikichev@skoltech.ru)

*Saian Protasov:*

[saiyan.protasov@skoltech.ru](mailto:saiyan.protasov@skoltech.ru)

*Pavel Kopanев:*

[pavel.kopanev@skoltech.ru](mailto:pavel.kopanev@skoltech.ru)

*Behnoosh Meskoob:*

[behnoosh.meskoob@skoltech.ru](mailto:behnoosh.meskoob@skoltech.ru)

*Nikita Grunt:*

[nikita.grunt@skoltech.ru](mailto:nikita.grunt@skoltech.ru)

<http://indoor-expo.ddns.net>



# Competitive Players

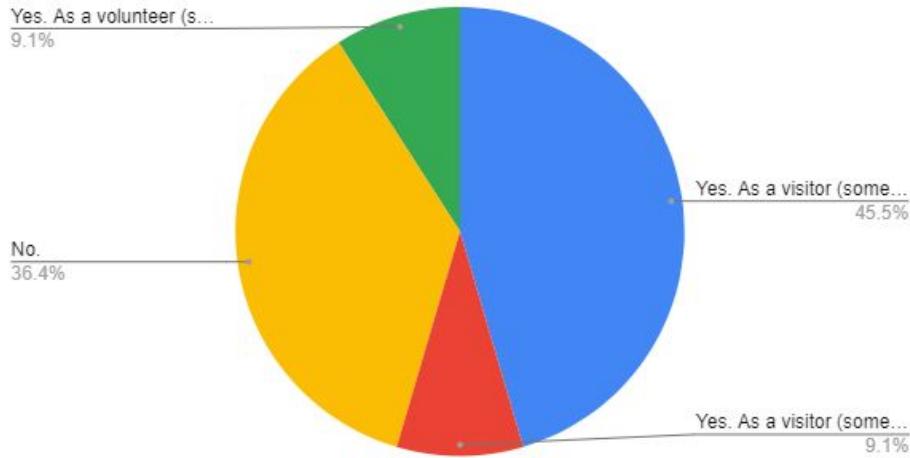
IndoorAtlas	Android or iOS SDK, MapCreator2 for Android mobile application	<ul style="list-style-type: none"><li>• Geomagnetic fingerprint maps</li><li>• Pedestrian Dead Reckoning with gyroscope and accelerometer (IMU sensors)</li><li>• Wi-Fi signals</li><li>• Bluetooth beacons</li><li>• Barometric height information</li></ul>
Navigine	Mobile app on iOS/Android.,web-interface/API	<ul style="list-style-type: none"><li>• BLE</li><li>• Wi-Fi</li><li>• UWB</li></ul>
Indoor.rs	SDK-free Indoor Positioning with the Location Based Engine- based on REST-API	<ul style="list-style-type: none"><li>• iBeacons</li><li>• Sensor Fusion</li><li>• SLAM Engine™ technology</li></ul>
WRLD	Android SDK and iOS SDK and API	<ul style="list-style-type: none"><li>• Bluetooth beacons</li><li>• receiver antenna arrays</li><li>• WiFi</li><li>• short-range radio Ultra Wideband</li></ul>
INFSoft	The SDK is available for android and iOS as an HTML5 plugin. Also they use of frameworks such as PhoneGap or Xamarirn is possible.	<ul style="list-style-type: none"><li>• Wifi</li><li>• BLE Beacons</li><li>• UWB</li><li>• RFID</li><li>• camera systems</li></ul>

# Customer Discovery Results

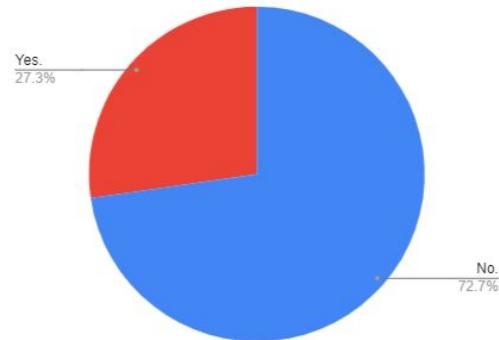
- Pavel Revenko, director-general of [Sokolniki Exhibition and Convention Centre](#) (*customer*)
  - **Not interested** in indoor navigation solutions (already discussed inside the company **several times**)
  - Regarding mobile solutions, it is possible to negotiate with **exhibitions organizers**
- Ekaterina, event organizer expert from [aigroup](#) (*customer*)
  - **Paper maps and signs** as navigation tools
  - **Small exhibition**, no need for navigation standalone
- Evgenia, Expomap CEO (*partner, expert, customer*)
  - **Interested in valuable partnership**
  - Considers **new ways of communication with customers**
- Constantin, director of Metal expo (*customer*)
  - You have to prove the **effectiveness** of your solution
  - Our mission is to **connect people** and the key metric is **the number of contacts**

# Survey Results

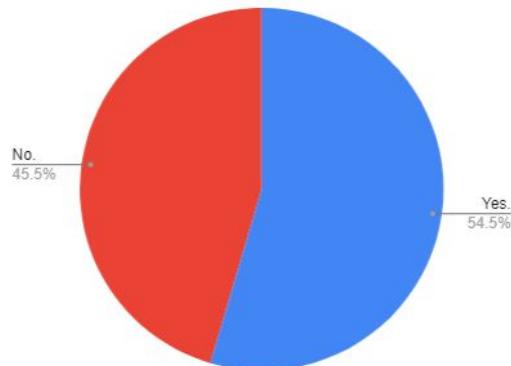
Have you ever participated in a national or international exhibition/expo



Do you know any company who has been working on providing any solution to these...



Have you ever heard about technologies that are used for indoor navigation and lo...



# Survey Results

When you were visiting the exhibition/expo, what problems were you facing?

The schedule/plan of the exhibition/expo was changin...  
9.7%

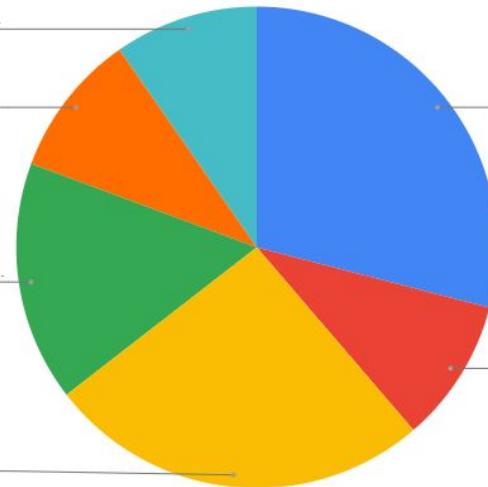
I couldn't find a paper map to find directions.  
9.7%

I wanted to find a person to ask for direction inside the...  
16.1%

I couldn't find the WC or food stands.  
25.8%

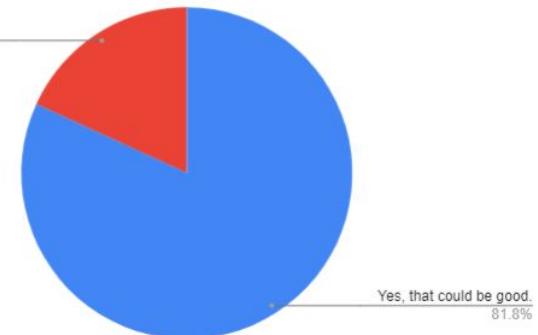
I couldn't find the booth/stand I wanted to visit (as a vi...  
29.0%

I had many brochures about companies, and I wanted...  
9.7%



Did you want to know your location in the exhibition/expo in real-time?

No, it's useless.  
18.2%



# Distribution Channel Diagram

Distribution channel diagram

