JJA Venture Search

OPPORTUNITY MONOGRAPH

sense360

| Chief Technology Officer | Sense360 - CTO |

Opportunity Monograph

SENSE360 - CTO

Vitals

Website

https://sense360.com/

Social Media

➢ Facebook
➢ Twitter
➢ LinkedIn

Founded

➢ 2014

Offices/Locations

➢ Culver City, CA (downtown)

Background & Strategic Focus

Sense360 uses mobile, location, survey, credit card, and other data to deliver groundbreaking insights for companies. Sense360 sells at the CMO level, and is currently focused on the food service industry (restaurants, convenience stores, and grocery stores), with plans to expand quickly into other sectors such as retail, entertainment, auto and hospitality.

Management has spotted a large opportunity to position the company as a **major disrupter in the world of external data, which is plagued by high-cost, static solutions that are neither timely nor accurate.**

By analyzing multiple massive data-sets of digital behavioral data and combining them with attitudinal survey results, Sense360 is able to create game-changing products that enable their customers to make better and faster decisions on everything from core strategy to day to day tactics.

Financing and Key Stats

Privately held and venture-backed Sense360

has received total funding to date of ~$13MM from major investors that include Upfront Ventures, FirstMark, Qualcomm Ventures, Founder Collective and others. The company is receiving unsolicited offers from new and existing investors and will close its series B by year-end.

Sense360 Highlights:

➢ Market research is a $22B/year market in the U.S and $75B/year globally and Sense360's TAM is > $15B
➢ Subscription Revenue grew over 3x in each of 2017 and 2018, and Q1 2019 was up 260% over Q1 2018.
➢ ACV is ~$180K
➢ Market leader in Quick-Serve Restaurants (QSR) with early adoption in Casual dining and Convenience retail
➢ Clients include 7 of the top 10 Restaurant chains in the world
➢ 2M opted-in users and over 650K active on a weekly basis
➢ Sense360 is at the forefront of privacy

Position Title

Chief Technology Officer

Position Location

Culver City, CA

Reports To

CEO

Compensation

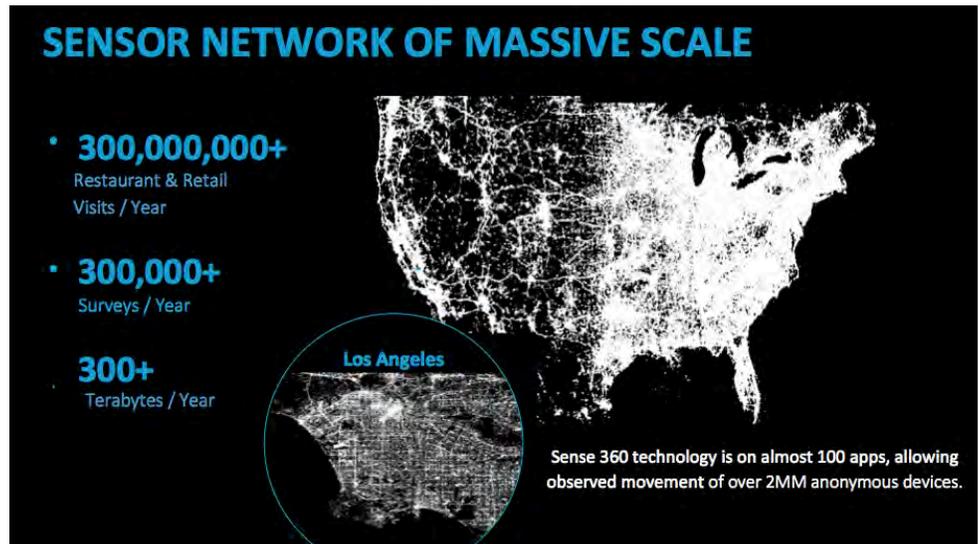Highly competitive base, benefits package, and equity.

Sense360: Overview & Analysis

In the last ten years, companies have made massive investments trying to better use data. Venture capitalists have poured billions funding the next great AI and machine learning startup. But all of these efforts are focused on capturing, warehousing, and analyzing internal data; data that the corporation already owns and that was captured inside of their four walls. When it comes to consumer data, competitor data, and industry data, there has been almost zero investment and companies are still relying on surveys to answer their core strategy questions.

Sense360 is disrupting the way external data is collected, making it far more accurate, real-time, and scalable, and turning it into actionable solutions that companies can use to make data-decisions across the entire organization.

Massive Market Opportunity

According to a June 2018 research report by IBISWorld, the U.S. Market Research industry now represents a $22 billion marketplace, with 42,000 businesses employing over 142,000 people. According to IBISWorld, the industry is benefiting from a series of positive economic and consumer trends that have encouraged companies to invest in market research.

SENSOR NETWORK OF MASSIVE SCALE

- **300,000,000+** Restaurant & Retail Visits / Year
- **300,000+** Surveys / Year
- **300+** Terabytes / Year

Los Angeles

Sense 360 technology is on almost 100 apps, allowing observed movement of over 2MM anonymous devices.

The market research industry as a whole is considered to be in a "mature" phase, and is dominated by a few static, legacy players such as Nielsen, Kantar Group, Ipsos and others that are themselves mature and slow moving.

Sense360 is disrupting the status quo in market research by providing a more strategically significant, tech- and big data-driven product that is quickly becoming the dashboard and decisioning engine for CMOs. It is closing six-figure deals regularly and customers have proven to be super sticky (negative dollar churn). All of this is a rare feat for any company, and especially a startup.

Sense360 has built a fast-growing business around a never-before-available combination of location data flowing from some two million opted-in consumers using over a 100 different apps, transaction data, and receipt data, along with a fast-growing survey network that is already capturing over 500,000 restaurant industry surveys per year.

Sense360's impressive network of close to 100 apps gives the company access to foot traffic data from millions of consumers representing tremendous diversity across ethnic, age and other demographic and economic lines.

Access to credit card data from four million panelists provides insight into spend and other critical information.

While the behavioral data obtained from mobile apps and credit card transactions provides insight about the "what", "when" and "where" of consumer activity, survey data answers the all-important question of "why?" Without the "why", companies cannot truly understand, reach and retain their customers.

The combination of all this data collected on a *massive* scale offers customers a more holistic view by providing real-time visibility into how the world is interacting with the business – as well as its competitors.
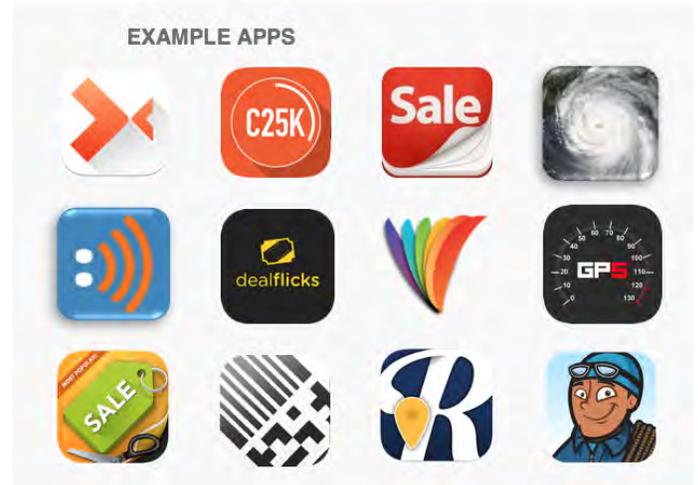
Survey Data's Current State

Current survey methods are fraught with problems that include:

- ➢ **Inaccurate**: If you ask someone how many times they go to the gym per week, month or year, the answer is almost guaranteed to be inflated. Observing actual behavior via app-enabled sensor and location data provides a highly accurate and timely view.
- ➢ **Biased**: Everyone has biases. People are pre-disposed to answer questions in a certain way, regardless of reality.
- ➢ **Static**: Survey data represents only a single point in time. Sensor data from mobile apps is time-series that that provides a far richer, dynamic and ongoing stream of insights.
- ➢ **Slow**: Surveys can take weeks and months to administer and compile results. Digital methods provide quick, accurate samples at scale.
- ➢ **Costly**: Traditional surveys are expensive (as much as $50/survey to the end client) – especially those that require sending people into the field. A network of opted-in survey respondents can be canvased quickly and inexpensively.
- ➢ **Limited**: Sample sizes for traditional surveys provide limited opportunities to break down data by time period, location or other ways. Mobile-based methods lack such limitations.

A Full-Picture Product Suite

Sense360's product suite allows customers to make better strategic decisions and identify concrete growth opportunities, as well as measure and optimize the tactical levers available across their organization. Precise, accurate data allows customers to measure and analyze impact at even the most granular local levels.

And those customers represent a *"Who's Who"* of the industry representing 7 of the Top 10 restaurant chains along with nearly 40% of the top 50 restaurant chains. Sense360 sells into those giants at the CMO/corporate level.

Armed with data-driven insights enabled by Sense360, organizations are better able to define the strategic direction of their brand, understand what truly resonates with customers, make smarter budgeting decisions, and more accurately allocate spending across channels and tactics to optimize revenue.

Sense360 taps into a tsunami of data to help companies drive decisions around everything from core strategy, to marketing and messaging, to operational excellence.

With Sense360, organizational leaders are making better and more confident decisions that influence the very nature and evolution of what their companies do.
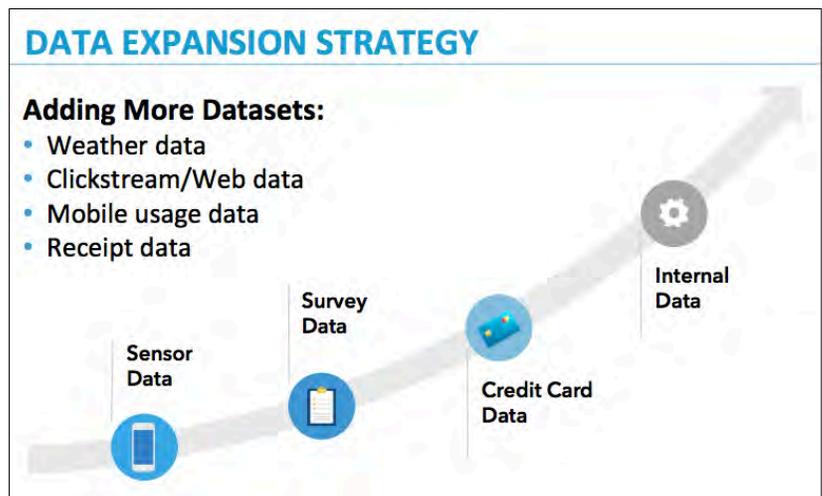
Purpose-Built for Privacy

Sense360 has, smartly, been highly sensitive to data privacy issues and concerns from the very beginning with its "privacy by design" approach that includes these user data safeguards:

1. Participating apps must get user consent to acquire location data.
2. Sense360 does not collect any PII (Personally Identifiable Information) like names or email addresses using its SDK — only limited data and optional survey responses linkable to devices.
3. The SDK encrypts transmissions of sensor data to our servers, and we encrypt sensor data while at rest on our servers.
4. Sense360 proactively obfuscates certain data to help us avoid inadvertently collecting PII. As an example, a user's likely home Wi-Fi access-point names are obfuscated, as they might include the user's family name.
5. If Sense360 determines that a location is likely a user's home (based on visit data), precise home location is stored only on the user's phone and not on our servers.
6. A user's location data collected near their likely home is obfuscated before storage on our servers to maintain privacy.
7. Sense360 obfuscates POI inferences for visits to locations that we recognize as sensitive, such as locations we recognize as hospitals, doctors' offices, and places of worship.
8. Sense360 does not collect advertising IDs if the user has enabled the global interest-based advertising opt-out option on their device.
9. The current SDK sends Sense360 data only from devices located in North America.
10. Sense360 does not resell individual-level data and we do not use our data for ad targeting.

Expansion Strategies

Although Sense360's initial beachhead has been the restaurant industry, there are huge upside opportunities for expanding across multiple fronts, including:

➤ **Upsell/cross-sell** existing customers to Sense360 in more and new ways, including additional modules, surveys and more.
➤ **Vertical/industry expansion**: Sense360 anticipates strong demand across verticals/segments that include QSR, CDR, C-stores, Grocery, Retail, Hotel, Auto and Entertainment.
➤ Within a given vertical: Sense360 also anticipates **selling to investors, lenders and suppliers** for clients in those sectors.
➤ **Data expansion**: Sense360 is working to expand its data portfolio to include such things as weather and receipt data, with the additional goal of becoming a subscription data provider.

DATA EXPANSION STRATEGY

Adding More Datasets:
• Weather data
• Clickstream/Web data
• Mobile usage data
• Receipt data

Sensor Data
Survey Data
Credit Card Data
Internal Data

Key People @ Sense360

Eli Portnoy, CEO & Founder

Prior to co-founding Sense360 in 2014, Eli was co-founder and CEO of Thinknear, a location-based mobile ad network that was sold within 19 months of inception to Telenav (NASDAQ: TNAV) in what was the largest ever acquisition of a TechStars company. After the acquisition, he became President of the Thinknear business unit within Telenav, had full responsibility for the P&L, growing revenue almost 20x, building the team to 75 people, and taking the unit to an industry leading position. He loves to write and has been a recurring contributor to both Forbes.com and AdExchanger.com as well as a guest contributor on TechCrunch, StreetFight, Digiday, MediaPost and other publications. Eli earned a BA from the University of Pennsylvania, and MBA from Harvard Business School.

Kamil Mroczek, CTO & Founder

Prior to co-founding Sense360 with Portnoy, Kamil was a software engineer at Thinknear where he was the 3rd employee (2nd engineer) and helped build an amazing and passionate engineering team, leading up to Thinknear's acquisition by Telenav a mere nine months later. Kamil was tech lead for a high performance mobile ad buying engine that used location and contextual targeting to deliver ads to over 150 million users monthly. This ad platform handled 43.7 billion requests per week while maintaining a 99th percentile response time of 75ms. As a member of the LA CTO Forum, he also assists the LA startup ecosystem as an informal Technical Advisor. Kamil earned his computer science degree from the University of Waterloo in Canada.

David Teichner, Chief Growth Officer

David Teichner brings 20 years of experience in FinTech, retail, entertainment marketing, content development, couponing, media and advertising sales. Prior to joining Sense360, David was CRO at ForwardLine Financial and Co-Founder CEO of Channel M, which developed in-store television networks to drive sales in retail. During his tenure, Channel M raised over $25M and grew to $10M revenue before a successful sale to the PlayNetwork. David has been a Board Member of the Digital Place-based Advertising Association and is actively involved in the Mobile Marketing Association. David holds a BS in Marketing from Tulane Univ.

Carrie de Groot, Vice President of Account Management

Carrie joined Sense360 in 2018. She leads the company's account management team and is responsible for the success of the company's customers and helping them get the most out of the solutions and data provided. Prior to Sense360. Carrie worked for Bambee, and HR software as a service platform targeting SMB's. She has previously worked at Bullhorn for 7 years with several promotions ultimately becoming Vice President of Client Success. Carrie earned her BS Accounting and MS Accounting at University of Wisconsin, and MBA from University of Chicago.

Mikey Renan, Head of Partnerships

Mikey held several positions at Telenav and Thinknear before joining Sense360 as Director of Business Operations in January 2015. He assumed the role heading Partnership Development in August 2017. At Thinknear he was a Product Manager, and for Telenav a Sr. Business Analyst and Marketing Research Analyst. Mikey earned a BA in Theatre at Northwestern University.

Position Description: Chief Technology Officer (CTO)

Insights Surrounding this Role

Sense360 is disrupting the massive ($75B), slow-moving Market Research industry initially attacking a $15B TAM. They are already selling six-figure deals high (CMO level) into major corporations and getting them to understand there is a new, more accurate and cost-effective alternative to conducting traditional static market research which only delivered data and trends from the rear-view mirror.

Sense360 has proven its solution and become the market leader in QSR while gaining early traction in Casual Dining and Convenience retail. It is growing rapidly and needs to scale its engineering and data science technology organization to extend the robust technology stack, product development and data insights capabilities in support of accelerated growth.

The CTO will be a key member of the leadership team and bring a track record of growing, mentoring and scaling teams, platforms and companies. The best news is that nothing is broken! There are no big pending issues in engineering—in fact, it is operating like a well-oiled machine. The selected CTO will have the time required to get in and get spun up before making any future-facing technology decisions or organizational changes.

Sense360 seeks a true leader who has been successful in building high performance technology teams and cultures that foster a great working environment and became a magnet for top tech talent. Though s/he will have deep technology roots and experience, we are not looking for a coder or even an architect, but rather a leader who brings the playbook for building and scaling Engineering and Data Science teams and scalable, high performance platforms. The selected individual will not only be a great manager of tech teams, but also bring the business maturity to manage up to CEO and Board, and the presence to liase with key customers and hundreds of data partner companies and communicate with external constituencies including investors, analysts, customers and partners.

The CTO will own the engineering and data science functions and needs to have a deep understanding of the key challenges, opportunities, and products being built by each. They will understand the systems, trade-offs, and architecture, and how it impacts the business. They will ensure that each is operating at a very high level, building the right things in the right way, and making the right decisions, and hitting their KPIs. Though the CTO will not be coding, s/he will need to understand the underlying technologies and be strong enough to review code and participate in solving problems.

> *"We ingest terabytes of data from millions of devices every day."*
>
> *Eli Portnoy, CEO*

The CTO will work closely with the CEO and be the voice of technology, clearly identifying the opportunities and trade-offs across major decisions (investments, hiring, licensing, and org changes) and working together to ensure a highly aligned, well organized, and properly funded technology organization.

The CTO will manage and coach Co-Founder, Kamil Mroczek to help him continue to grow and reach his full potential. Kamil is a student of engineering and technology executive who is passionate about learning and growing. He is a strong technologist and has built a scalable foundation at Sense360, but is looking forward to partnering with a CTO who has scaled organizations and managed multiple teams.

The CTO's EDS Organization

Total headcount at Sense360 is 30 with more than half of the employees on the Engineering and Data Science (EDS) team. The team is smart, passionate, and eager, but also young and generally learning to achieve scale for the first time. The CTO will need to bring experience and knowhow and help coach and mentor the team through growth and scale.

Sense 360 has budgeted for the EDS team to grow by an additional five heads by year end. With the imminent close of the company's Series B financing in Q4/Q1, a significant portion of the proceeds are earmarked to grow the EDS team. EDS team size is projected to double in next 12 months.

The CTO's Principal Charter

➢ Own the engineering/product development, data science and analytics (EDS) teams and all efforts needed to define, enhance and scale and the platform that Sense360 is pioneering.

➢ All about scale! Grow the EDS team from 15 to 100+ over the coming years. Drive the organizational design, vision, strategy from the playbook the CTO brings into Sense360

➢ Holistic Data Transformation: Build the infrastructure, processes and tools to ingest, cleanse, score, and bring together multiple datasets into an accurate representation of the real-world. Currently, Sense360 ingests three datasets.

➢ Build the data science capabilities to constantly enhance the accuracy of Sense360's datasets while building the infrastructure to enable fast insights from the data (internal tools for our analytics team, self-serve dashboards, automated reports)

➢ Work shoulder to shoulder with Sales & Marketing to accelerate growth in a coordinated fashion, providing sales enablement support and materials.

➢ Partner with Product & Client Solutions to bring new offerings to market quickly and effectively, and with the rest of the organization to continuously drive the business.

Key Success Metrics

➢ Increase the impact of EDS organization by aligning all efforts to concrete business goals

➢ Increase the cadence of releases and projects in Engineering and Data Science (EDS) functions, with a strong bias for simplification, urgency, and consistent value

➢ Grow the EDS teams to support continued and accelerated growth and business plan initiatives

➢ Establish clear lines of communication between EDS and other company functions

Core Competencies & Keys to Success

➢ Must have led teams of more than 35 at a MINIMUM. Proven ability to build, manage and scale EDS teams from ~10 to >100. Built high performance and highly accountable technology organizations.

➢ Experience managing AI, machine learning and data heavy tech stacks.

➢ Similar stage company experience having ideally been part of Start-up, rapid growth and scale

➢ Ideally come up through a career path which includes deep technology roots and hands-on experience in either Engineering or Data Science. Sense360's tech stack comprises Ruby, Python, Spark, and AWS.

➢ Been close to the customer and the market; able to articulate customer pain point and voice so a product management background/sensibility is a big plus. Able to work effectively with

external constituencies including customers like McDonald's, Burger King, Wendy's, 7-Eleven, Arby's and Sonics

➢ Domain/Sector: Experience and success in Tech heavy businesses, hopefully with a big data angle (fin-tech, ad-tech, etc.)

➢ Academically, should be degreed from a top engineering school

➢ Exceptionally strong business judgment and communication

Important Personal/Cultural Characteristics

➢ Great team builder and leader able to coach, mentor and develop talent while getting the most out of the people you work with.

➢ Student of business, passionate, interested, and versed in the drivers of business

➢ Low ego, Sense360 team operates as a flat organization with a high degree of collaboration

➢ Great Communicator: Polished presence, self-confidence; able to gain buy-in and create productive dynamics within a team and interface with top-of-their-game, household name customers

➢ Flexible and resourceful, with a figure-it-out-and-get-it-done mentality; not afraid to make mistakes quickly and course-correct.

➢ Passionate: Proven high-level strategic, creative-thinking, and problem-solving abilities. More than just a tactical manager; brings vision to help shape overall company direction.

➢ Smart & Insightful: High intellectual bandwidth, but also street smarts and the gut to make the tough calls that don't always flow from the data.

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