DEEYOOK

Touchless Tracking

Locate everything, anywhere, anytime

Deeyook Location as a Service

Deeyook delivers a touchless indoor/outdoor asset tracking solution that provides precise location in
real-time.

As a company, Deeyook provides locational support that guarantees utmost precision in supply chain manufacturing and operational performance.

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Touchless Asset Tracking
Addresses to the Biggest Operational Challenges

Lack of Visibility

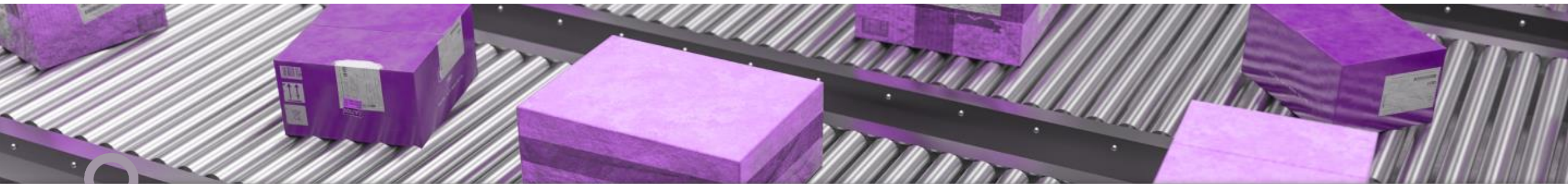Shipping, Yard, and Warehouse Management:
- Obtain the location of every crate, pallet box and load carrier
- Increase order fulfillment accuracy and speed
- Increase trailer velocity
- Optimize shipment efficiency and cost
- Manage risks such as theft, damage and delays
- Instantaneous inventory hyper-localization

Supply Chain Disruption

Get a real-time view into location of your inventory, identify logjams, and take action to ease delivery problems and fulfill orders faster.

Labor Shortages

Achieve sustainable growth and build organizational resilience by automating operations and minimizing reliance on labor.

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Deeyook Touchless Tracking

Deeyook automates asset locationing. Why scan when you can Deeyook?!

UBIQUITY

Tracking everywhere
indoors and outdoors

SCALABILITY

Tracking everywhere using
existing infrastructure

PRECISION

Locating assets within a
precision of 10cm/4in

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Yard Management USE-CASE

Optimize shipment efficiency & costs with real-time trailer & yard visibility

Real-time Trailer Visibility
Identify inventory to be unloaded
Locate empty trailers available to use
Reduce/eliminate spotters doing manual yard checks

Optimize Shipment Efficiency and Costs
Reduce gate congestion and demurrage/detention costs
Optimize yard jockey usage
Improve trailer velocity – reduce delays in visit life cycle

Safety
Increase yard visibility
Benefit employees through injury prevention
Enable operations monitoring for safety and compliance

Photo by Felix Fuchs on Unsplash

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Warehouse Management
USE-CASE

Optimize warehouse functionality and save time in daily operations

Scan-free / Clipboard-free
Maximize work hours and decrease long-term costs of manual asset scanning

Continuous and Real-time Location Intelligence
Increase order fulfillment accuracy and speed
For specialized deliveries and services

Asset Data
Monitor expiration dates for perishable goods and other time sensitive deliveries to eliminate loss

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Supply Chain USE-CASE

Optimize inventory and asset utilization data

Inventory Optimization
Avoid over and understocking by tracking your inventory in real-time

Asset Utilization Data
Deliver greater operational efficiency, time savings and cost reductions

End-to-End Visibility
Protect assets and reduce the loss of goods through misplacement and theft
Enable priority delivery of perishables via date code/harvest date

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Manufacturing USE-CASE

Obtain complete visibility of your inventory, assets and WIP

Real-time Visibility
Eliminate wasteful "Search and Find" expenses
Know the location of every required crate, pallet box and load carrier
Cut costs and lead times in assembly and production processes

Continuous and Real-time Location Intelligence
Improve overall inventory management, cycle time and process documentation

Asset Data
Optimize workflows for highly customized products

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Yard Management
Use-case

Locating the right car in post-production parking lot

Deeyook Touchless Tracking:

· Pinpoints the car instantly

· Saves time to repair the car

· Improves time to market

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Manufacturing
Use-case

Scanning boxes is time consuming

Deeyook Touchless Tracking:

· Eliminates the need to scan

· Reduces production time

· Increases productivity

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Solving the Location Problem

Legacy Outdoor GPS, Cellular

o   Challenged in dense urban environments
o   High power consumption
o   Limited accuracy
o   Disruptive spoofing

Legacy Indoor BLE,

UWB, Wi-Fi RSSI & TOF

o   Dependent on infrastructure
     and site planning
o   Limited accuracy & range
o   Constrained by power, privacy

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UBIQUITY
Tracking everywhere
indoors and outdoors

SCALABILITY
Passive and infrastructure agnostic
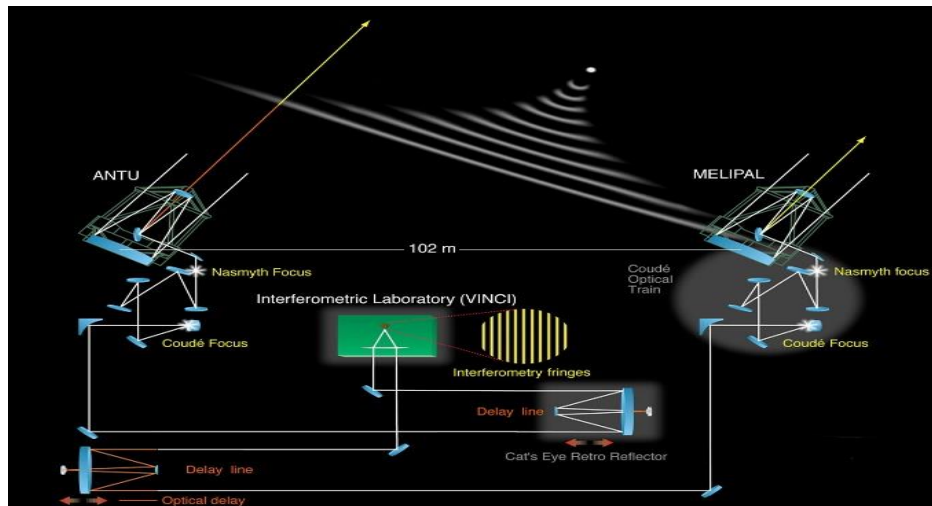leveraging 8.5 billion existing Wi-Fi
access points worldwide

PRECISION
Highly precise
(10 cm)

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Technology Breakthrough

Touchless location tracking using existing Wi-Fi infrastructure

Interferometry
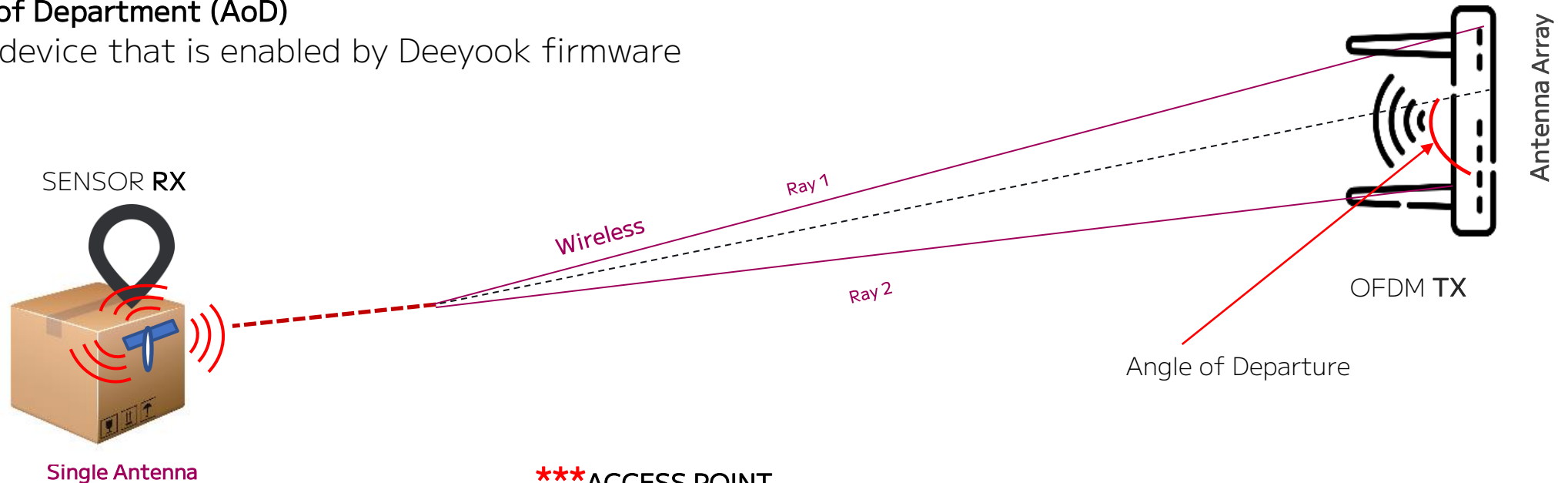

AI-based Physical Model

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Technology Breakthrough

The Deeyook sensor is based on wireless interferometry
The difference in carrier phase between two free-space rays is translated into an angle.
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Angle of Department (AoD)
Any device that is enabled by Deeyook firmware

SENSOR **RX**

Ray 1

Wireless

Ray 2

Single Antenna
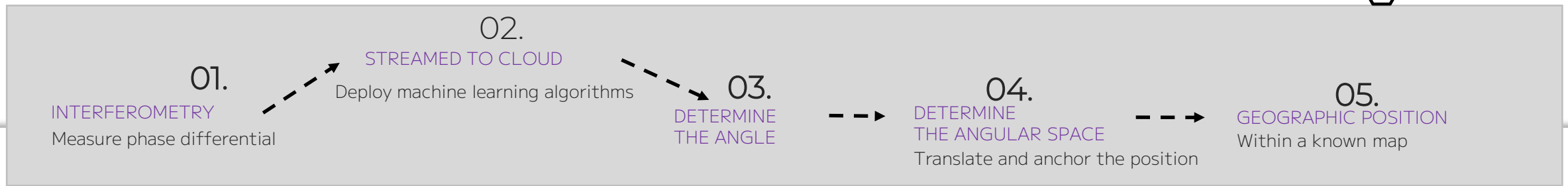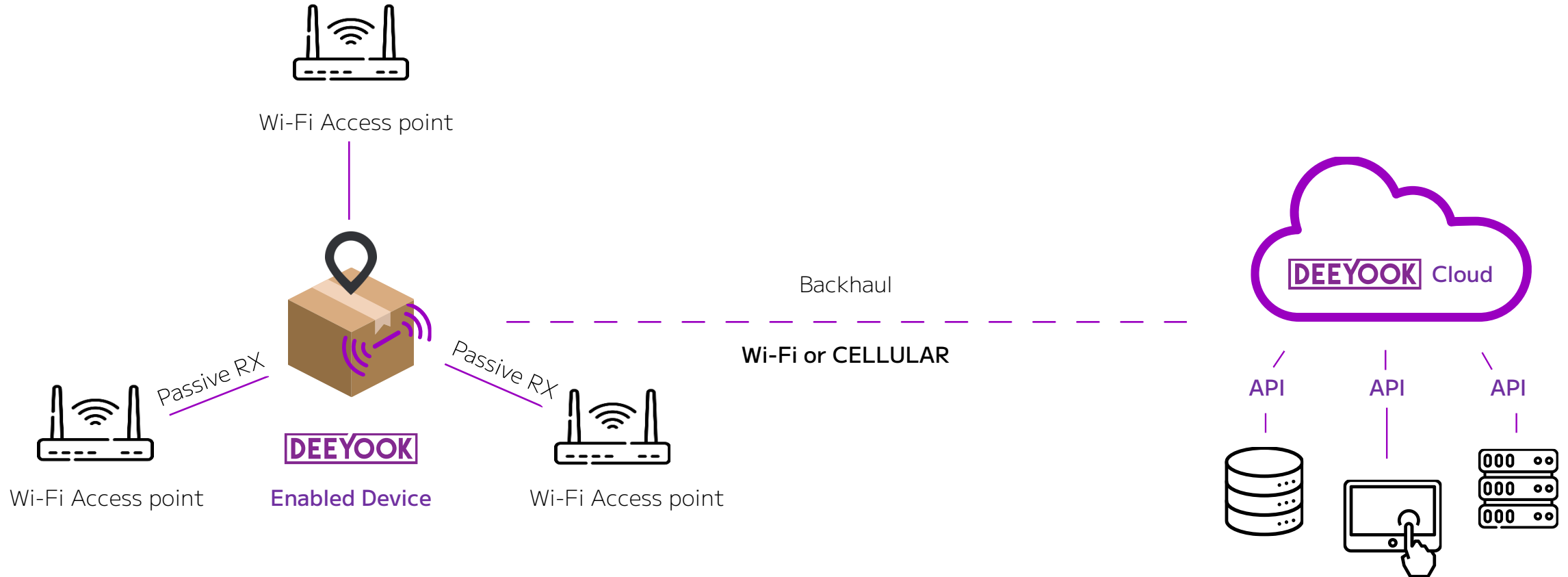
Antenna Array

OFDM **TX**

Angle of Departure

***ACCESS POINT

To calculate the angles, we use any two-antenna device, ranging from home routers (which we use without needing to connect to) to cellular antennas (LTE & 5G).

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Technology and API Flow

Wi-Fi Access point

Backhaul

DEEYOOK Cloud

Passive RX

Passive RX

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Enabled Device

Wi-Fi Access point

Wi-Fi Access point

Wi-Fi or CELLULAR

API   API   API

01.
INTERFEROMETRY
Measure phase differential

02.
STREAMED TO CLOUD
Deploy machine learning algorithms

03.
DETERMINE
THE ANGLE

04.
DETERMINE
THE ANGULAR SPACE
Translate and anchor the position

05.
GEOGRAPHIC POSITION
Within a known map

About us

Technology Breakthrough
Interferometry & AI-based physical model

Touchless Tracking
Asset location automation as a service

Initial Target Markets
Manufacturing, logistics and backend retail

Intellectual Property

Eight (8) US patents granted and

Eleven (11) additional system patents in process

Partnerships

infineon

SEQUANS
COMMUNICATIONS

Industry Awards

PLUGANDPLAY

HiStart

DRIVE

RUHRSUMMIT

ORACLE
for Startups

SIA App Challenge

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Videos of Indoor and Outdoor Precise Touchless Tracking

Indoor: https://www.deeyook.com/indoor-demo

Outdoor: https://www.deeyook.com/demo

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Touchless Tracking

Locate everything, anywhere, anytime with Deeyook

THANK YOU!

contact_us@deeyook.com