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*on mission*



# Secure Communications and Digital Transformation for Public Authorities

Beyond Communications, Enabling Digital Transformation





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# COMMUNICATION IS A KEY FACTOR FOR CRITICAL MISSIONS

## Critical infrastructures



## Population Protection



## Crisis Response



## Border Security



## Maritime Security





# PUBLIC ADMINISTRATION COMMUNICATION CHALLENGES

- Local-level as well as governmental-level officers spend significant time on the move
- Everyone is equipped with a smart phone, with texting/Messaging being the fastest way to communicate
- Risk of rogue use of market apps
- Data confidentiality is an important aspect of the communication process
- Dealing with crisis management is now a real-time issue



- Good News :Technology is here!
  - Smartphones/ tablets /WebRTC
  - OT/IOT, NFC, BLE,...
  - Networks
  - APIs
  - Communication tools (Whatsapp, Facebook, Google WeChat, Skype, Slack)
- It is affordable and very agile
  - Free tools
  - Cheap APIs



- Consumer tools are **not** ready for Public Safety use
  - Directory
  - Administration
  - Integration
  - Data control
  - Maintenance
- **Security** is an issue
- Organizational structure does always match Vendor philosophy
- Legacy IT is complicated to tie to new tools





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# JUGGLING WITH SPECIFIC TOOLS GENERATES INEFFICIENCIES

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- Public safety agents are overwhelmed by specific tools
  - Tetra handset for communication
  - Portable PC for accessing databases
  - Mobile phone for access to public networks
  - Multiple specific apps on their mobiles
  - Multiple paper forms to be filled
- Requires heavy training to use dedicated tools
- Delays Mission Critical actions
- Generates work overload in stressful situations
- Risk of reducing focus on Mission





# ALL IN ONE SOLUTIONS BECOME AVAILABLE IN OPERATION (1)

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- ✓ Mission Critical Push To Talk
- ✓ Communication on all types of IP networks (3G, LTE, Wifi) and all types of devices
- ✓ Time-critical information broadcast to the right team
- ✓ Safety Alert messages
- ✓ Secure and fully controlled environment



# ALL IN ONE SOLUTIONS BECOME AVAILABLE IN OPERATION (2)

- ✓ Multimedia capabilities (photo, video streaming,...)
- ✓ Agile and flexible directory and group management
- ✓ Real-time Geo-location tracking
- ✓ Mission Process Management
  - Easy Mission Process Creation
  - Secure controlled access to critical databases
  - Digitalized Forms and Reporting







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# EXPECTED PRODUCT CAPABILITIES

Mission Critical  
Push-To-Talk

Comprehensive  
Instant  
Messaging

3GPP MC Data  
and File Sharing

Geolocation  
Tracking  
&  
Reporting

Browser-based  
Command  
Console for  
Team  
Management,  
Communication,  
and Tracking

Remote Data  
Wipe Out

Analytic  
Reporting for  
Team  
Management

PMR, TETRA,  
and Other Radio  
Interoperability  
Available

Open API for  
Integrations

Mission  
Processes  
Integration



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# Use Cases





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# FIELD POLICE & FIRE BRIGADES

- Using Push-To-Talk to report or broadcast any abnormal incidents with dedicated secure voice channel.
- Geo-location feature enabled to report real-time location to the Control Center or Crisis Room.





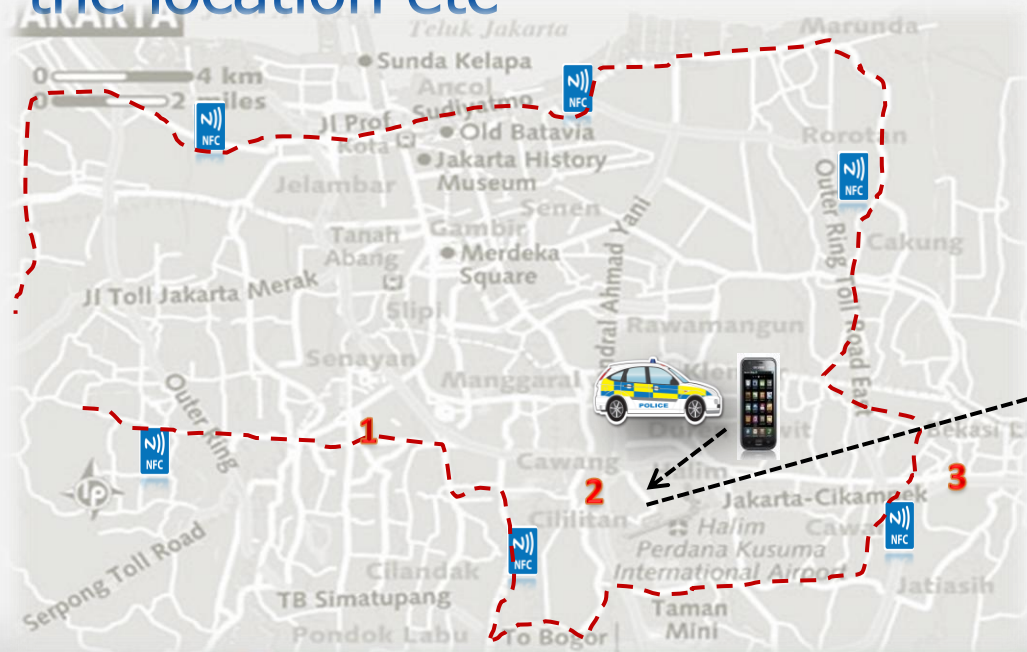
- A fire broke out in a shopping mall , need to communicate between different groups at different locations
  - Police to evacuate people and relieve the traffic
  - Fireman to come to the location
  - Medical to come on site with the right medical resources for fire injuries
- Dispatcher dynamically sends key positions and dangers on map to foster all members real time situational awareness
- Dispatcher able to regroup dynamically the teams and release after, all in real time

**Key point: Call without distance limitation. Real-time to group teams and members in the groups can inter communication with each other. Enhanced situational awareness and coordination**



# PATROL & EMERGENCY VEHICLES WITH GEO-LOCATION

- At each selected point, scans the NFC tag, a message will be sent automatically to the management system integrated (if any) or the officer's phone.
- Information included in the message can be date, text, the location etc



Police officer **Seah** arrives at **St. 2** @09:30AM.



Management System  
and/or  
Supervisor's Phone



- Traffic police is currently handling the traffic roads avoiding traffic congestion and potential risks for incidents
- Dispatcher selects several police personnel nearby the area and start to broadcast a call, inform them to go to particular places to handle the situation
- Selected personnel receive relevant video streams coming from field smartphones, fixed cameras or drones

**Key point: A dispatcher can initiate a broadcast call to a group of select people of a targeted location, from the command console map and routes all relevant information/media to relevant personnel**





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# EXAMPLE: REAL TIME RESPONSE WITH VIDEO STREAMING

- Activate video streaming in case of emergency with user location shown on dispatch console
- Dispatcher will have vital information about what happened and where in real time, and can make decisions on response
- Incoming Emergency Calls take highest priority, and disconnect all pre-existing calls for the call recipient

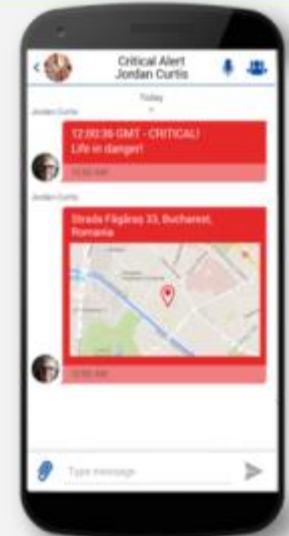
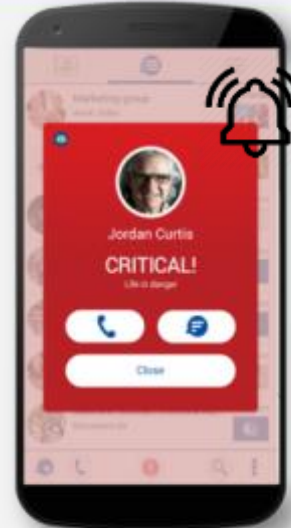
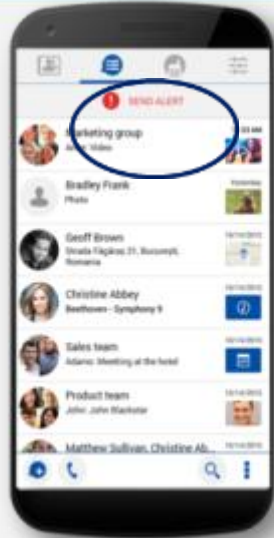




- Police officer on street finds someone suspicious. He presses the alert button when walks to interrogate that person.
  - Alert message/notification send to command center
  - Location message send same time with message, people will be shown in red to indicate the emergency status
  - Automatic call to command center
  - Body camera video recording and streaming automatically triggered to record officer action

**Key point: Emergency Alert with message, location, video and call. Enhances personnel security and provides evidence in case of litigation**

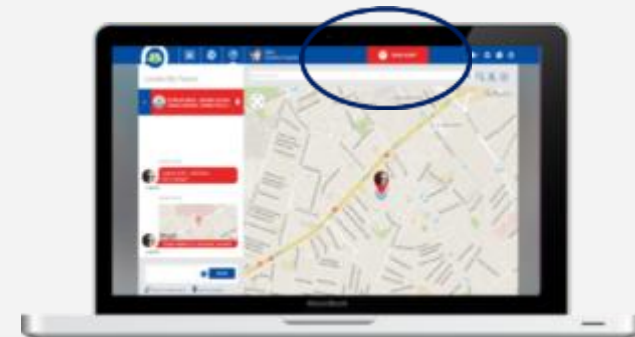
# EXAMPLE OF EMERGENCY ALERT IMPLEMENTATION



Alert button triggers Buzzer, Message Geolocation

## Configurable by Admin

- Type of message
- List of people to receive
- Buzzer or not





# MY MISSION: PREPARATION

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- Lengthy checklist of hazards for health and safety the police have to consider before carrying out an emergency mission
- Time consuming paper work, need to fill out at the station and obtain signature from a commanding officer
- Communicate and/or get authorization from other public safety stakeholders (fire brigade, health services, municipalities,...)
- Check list approval are essential to avoid possible future legal action
- While on mobile, not able to obtain the proper check list before taking an emergency action

**Key point: Fill check list on mobile as emergency happens to obtain immediate approval. No waste of time in paper work before a mission. Pull out the right document for approval while on mission. Secure Electronic Authorization**



# MY MISSION: EXECUTION

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- Dispatcher has sent all relevant processes for the mission
  - Roadside vehicle checking process
  - Speeding ticket process
  - Crime scene investigation process,...
- Evidences (pictures, videos, witness recordings, external databases information...) are taken/accessed on site, contributed immediately to the process and communicated to relevant authorities who can start investigations/other processes
- Process can be handed over to other entities and or officers
- A discussion thread is associated to the process. All relevant stakeholders are part of it and get notified of process status evolutions

**Key point: Process and associated discussion is the thread around which mission is conducted**



# MY MISSION: REPORTING

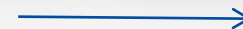
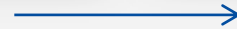
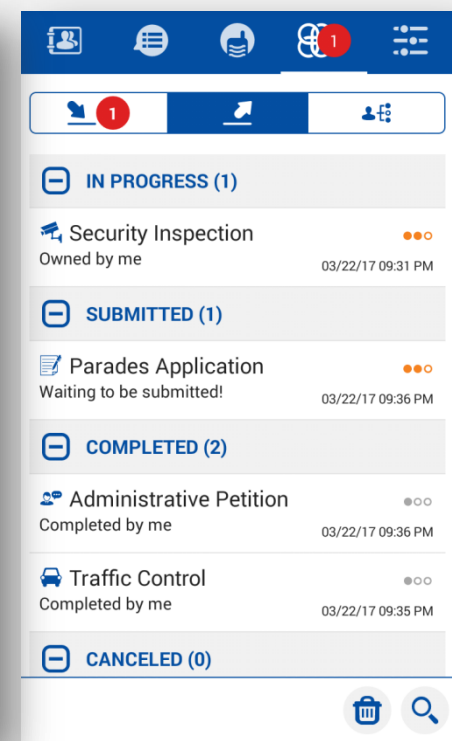
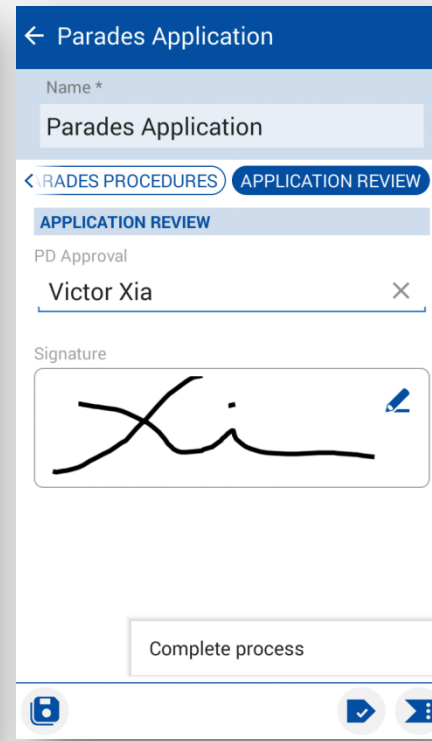
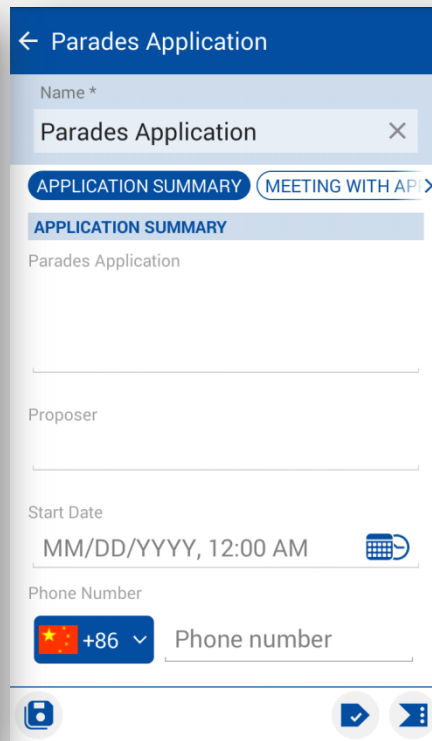
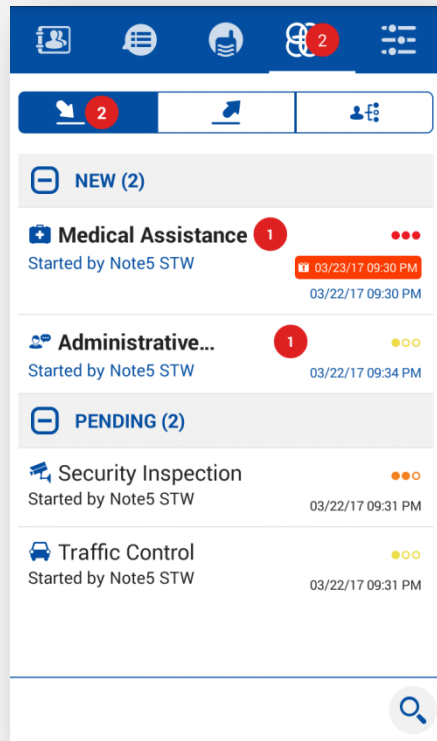
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- At the end of the mission the last officer in charge completes the process
- Notification is sent to relevant authorities for information/approval
- An electronic and/or paper report is edited, consolidating all information gathered during the mission
- All contributions to the process are tracked, time stamped and auditable
- All conversations, chats,... are tracked, time stamped and auditable

**Key point: Less time spent on paperwork/reporting.  
Automatic archiving. Electronic Formats and  
Audit Tracks available.**



# EXAMPLE: MISSION PROCESS USER INTERFACE



**Reception of a task as a step of the process**  
*IN tab*

**Processing the task as a step of the process**  
*Process page*

**Complete Process**  
*Process page*

**Step submitted/Process completed List**  
*OUT tab*



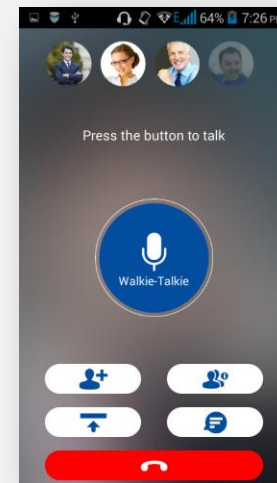
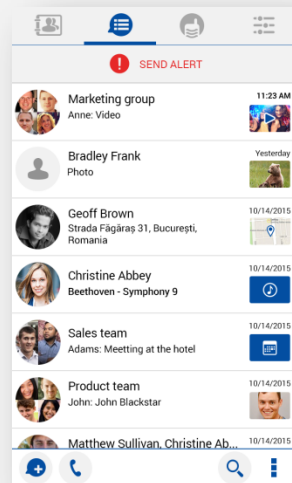
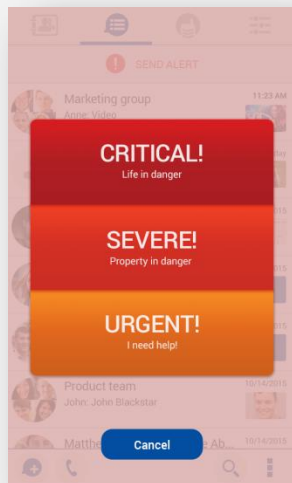
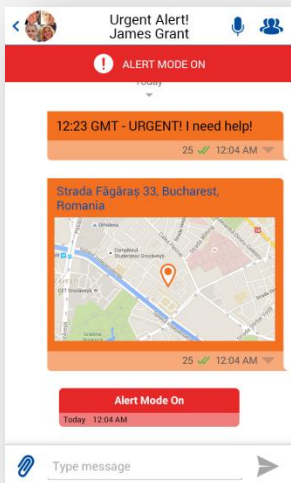
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A photograph of a soldier in a field, wearing a helmet and holding a rifle, positioned on the left side of the slide.

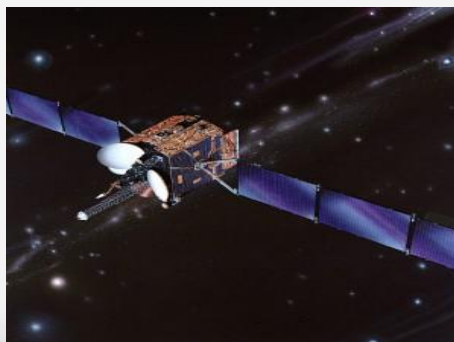
## **Key Success Factors for technology adoption**



- User interface parallels that of consumer IM apps
- Easy learning curve – less training necessary
- Promote a platform that remains intuitive even under stress
- Simultaneous VoIP call / PTT, geolocate, and IM / file share

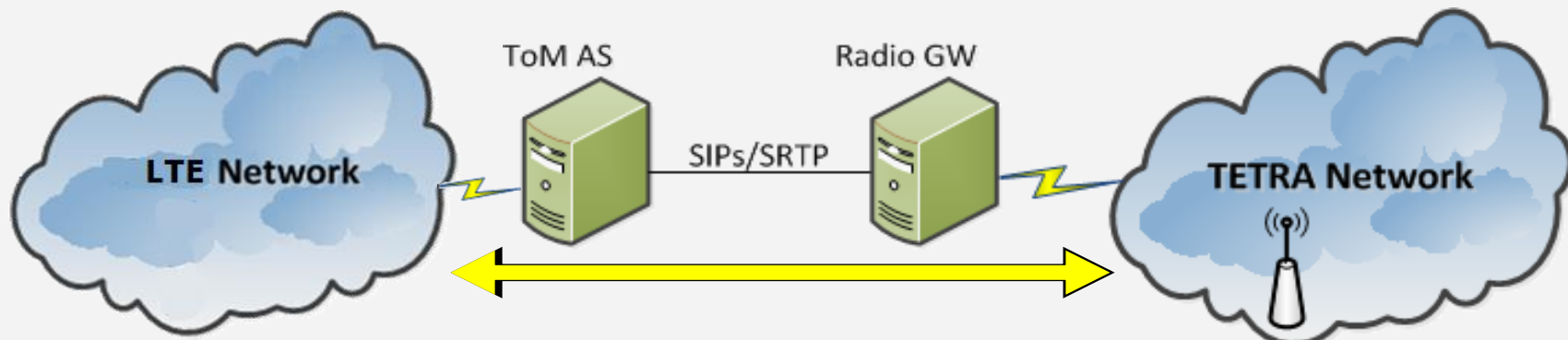


- IP based: benefit from IP ubiquity
  - Compatible with all types of Networks
  - Tactical LTE bubbles deployable on the field
  - Commercial 2-3-4G coverages close to the coasts
  - Wi-Fi + VSAT
- Local Wi-Fi connectivity with tactical server
- Fully secured and encrypted



# INTERCONNECT WITH EXISTING SYSTEMS

- Complement existing PMR by interconnecting with them



- Interconnect central databases through Open APIs to allow field personnel to retrieve filed info and feed processes
- Integrate Mission Processes with existing specific applications





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# AUTOMATED REPORTING

Bonjour, Ari BENTOLILA

StreamWIDE

Localiser mon équipe

Lilian GAICHIES  
Rapport hebdomadaire

RÉSUMÉ

21/12/2015 - 27/12/2015

L M M J V S D

Résumé des trajets

NOMBRE DE TRAJETS:	DURÉE TOTALE DES TRAJETS:	DISTANCE TOTALE:
7	2h 45MIN	13.79 KM

VITESSE MOYENNE: 5.00 KM/H VITESSE MOYENNE MAXIMALE: 10.73 KM/H

Durée totale de la tournée

DÉBUT DU PREMIER TRAJET:	FIN DU DERNIER TRAJET:	DURÉE TOTALE DE LA TOURNÉE:
08:57	19:46	10h 49MIN

Durée de la tournée sans le premier & dernier trajet

ARRIVÉE AU PREMIER LIEU:	DÉPART DU DERNIER LIEU:	DURÉE TOTALE DE LA TOURNÉE:
09:42	19:31	9h 49MIN

Temps sur site

Numéro du trajet	Lieu de départ	Heure de départ	Lieu d'arrivée	Heure d'arrivée
1	32-34 Rue du Moulinet, Paris, France	08:57	83 Rue d'Hauteville, Paris, France	09:42
2	83 Rue d'Hauteville, Paris, France	13:27	30 Rue du Moulinet, Paris, France	14:12
3	30 Rue du Moulinet, Paris, France	15:02	65A Rue Corvisart, Paris, France	15:17
4	65A Rue Corvisart, Paris, France	18:01	30 Rue du Moulinet, Paris, France	18:16
5	30 Rue du Moulinet, Paris, France	18:31	50 Boulevard Auguste-Blanqui, Paris, France	18:46
6	50 Boulevard Auguste-Blanqui, Paris, France	19:01	11 Place Andre Masson, Paris, France	19:16
7	11 Place Andre Masson, Paris, France	19:31	60 Boulevard Auguste-Blanqui, Paris, France	19:46

Lieu d'arrivée	Heure d'arrivée	Durée du trajet	Distance (Km)	Vitesse moyenne (Km/h)	Vitesse moyenne maximale (Km/h)	Temps sur site
83 Rue d'Hauteville, Paris, France	09:42	45min	5.58	7.45	10.73	3h 45min
30 Rue du Moulinet, Paris, France	14:12	45min	5.54	7.38	7.38	50min
65A Rue Corvisart, Paris, France	15:17	15min	0.56	2.23	2.23	2h 44min
30 Rue du Moulinet, Paris, France	18:16	15min	0.54	2.16	2.16	15min
50 Boulevard Auguste-Blanqui, Paris, France	18:46	15min	0.54	2.16	2.16	14min
11 Place Andre Masson, Paris, France	19:16	15min	0.49	1.98	1.98	15min
60 Boulevard Auguste-Blanqui, Paris, France	19:46	15min	0.54	2.12	2.12	

Lilian GAICHIES

Mise à jour : 09:49

Position : 12 Rue du 8 Mai 1945, Paris, France

Précision : 30.00 m Vitesse : Indisponible

Statut : Position mise à jour toutes les 15 minutes

Disponibilité : Libre

Envoyer un message Appeler Rapports

Itinéraire sur la carte Rapport journalier Rapport hebdomadaire



- Start with a prominent/influential department
- Designate a sponsor in the targeted department and train him/her
- Associate all stakeholders
- Prepare answers to their concerns:
  - Geolocation/Tracking
  - Privacy vs Audit Track
- Progressive deployment:
  - Provide same communication services as legacy systems
  - Introduce Digital Transformation by carefully choosing one process to implement
  - Let users propose new processes to implement
- Communicate successes
- Scale up and create users communities to share best practices

**Key point: Get all stakeholders in the loop. Be Progressive.**



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QUESTIONS?