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GDF SUEZ DEVELOPS A GLOBAL MOBILITY SOLUTION FOR FIELD OPERATIONS: SOUCHE®

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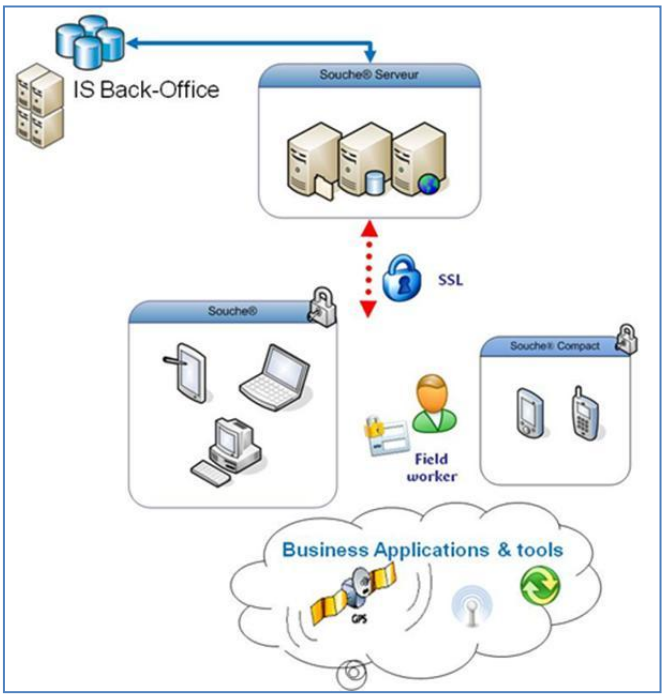
ABSTRACT

Most of the field workers in all affiliates of the GDF SUEZ Group use several different mobile devices (PDA, Tablet PC,..) to access various Back-Office applications. Today's challenge is to rationalize this complex and heterogeneous devices fleet by proposing a **unique access portal** for all field workers business mobile applications.

GDF SUEZ has developed a **complete mobility solution**, proposing a software framework, called SOUCHE®, which is composed of three components that enable addressing both **PC and PDA specificities**: PC software client, PDA software client and Back-office server.

From a client perspective (PC and PDA), SOUCHE® provides:

- **design** and **robustness** that support extreme conditions operations
- **automatic communication functions** that facilitate day to day operations: connection management, data synchronization, data access, homogenous graphical interface and optimized navigation through application
- **hardware abstraction layer** for optimal mobile applications development



From a back-office perspective, SOUCHE® offers following functions:

- users' profile management
- communication security and integrity
- data synchronization and data formatting

SOUCHE®, which has the ambition to become GDF SUEZ's mobility solution, has been **successfully experimented on the field during one year** with around 50 users, and will be deployed in 2011 by **GrDF (French Gas Distributor) and GRTgaz (French Gas Transporter) for production mobility solution with around 2,000 field workers.**

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1. THERE IS A BROAD RANGE OF MOBILITY TOOLS ON THE MARKET, BUT THEY ARE POORLY INTEGRATED IN COMPANIES

The new mobile technologies that have emerged in the last decade are highly developed for the home. For example, the last generation of touch-screen tablets offers user-friendly and interactive applications for common everyday tasks (email, internet, video, music, books, etc.). These technologies are popular because the applications are option-rich and the platform is novel, but also because of the information you can access and the lack of boundaries.

In the business world, despite the development of new so-called mobile technologies designed to make **onsite support** easier (monitoring, customer support, maintenance) for **infrastructure contractors** (water, gas, electricity, telephone, etc.), **the solutions being used still have many weak points:**

- "readings" are still printed out on paper, which means technicians have to re-enter the data when they return to the office. This method wastes time and creates **a threat to quality and data integrity** in the company's Information System (IS).
- the applications do not always provide good tracking for the technical service calls for customers, public authorities or third parties. **It is affecting quality of service**.
- the growing number of computer devices technicians are using (mobile telephone, PDA, GPS systems, desktop and/or laptop computers) **is making their day-to-day work much less efficient.**
- all the different applications and their lack of integration are stopping technicians from offering the best support possible in the field. This is hindering the effectiveness of field calls, mainly by creating a need to make additional journeys thereby causing **additional personal safety risks**.

So it was crucial to find a solution based on new 'mobile' technologies that:

- is an **innovation** in managing field calls and **changes the working methods** of how network operators and agents interact with customers,
- **meets** the growing demands for **financial performance**, **safety** and **service quality**.

2. A SIMPLE CONCEPT FOR QUICKLY INTEGRATING MOBILE DEVICES IN FIELD TEAMS WORKING ON WATER, GAS OR ELECTRICAL NETWORKS

The cornerstone of the concept is the **SOUCHE® program. SOUCHE® is a software portal that provides field workers with access to all the functionalities they need to conduct their tasks in mobility situation.** SOUCHE® permits convergence of industry applications and mobile tools on a single platform.

Based on feedback from mobility projects conducted by GDF SUEZ and its subsidiaries (GrDF, GRTgaz,…) and global benchmarks (PG&E California, Scottish Water, National GRID, Endeo, etc.), **SOUCHE® is intended to perfectly align the demands and constraints of field work.**

The following concepts were considered in designing and developing the SOUCHE® program:

- **Ergonomics** customized for the operating conditions, ease of use for the applications, intuitive navigation, screen compatibility, etc.

- **Robustness** of the applications: the applications needed to be able to support high volumes without affecting SOUCHE®'s performance (operating several applications at once, synchronization, etc.).
- **Automation** of the communication processes (data syncing, inter-application dialogues, network connectivity)

In this respect, SOUCHE® is a technological innovation coupled with extensive concern for ergonomy and operating comfort. **SOUCHE® makes it possible to standardize development and eliminate hardware constraints as much as possible**. As such, SOUCHE® offers these guarantees:

- **Uniformity**: all the applications use the same core functions
- **Upgradability**: SOUCHE® can handle an increasing number of functions shared by the applications
- **Simplicity**
- **Consistency**

The **SOUCHE® innovation developed by the GDF SUEZ RID can be used interchangeably** on PDAs, UPMCs (Ultra Mobile Personal Computers) or laptops like tablets.

3. THE SOUCHE® FRAMEWORK AIMS TO BE THE SWISS KNIFE FOR MOBILITY OPERATIONS WITHIN GDF SUEZ GROUP

3.1. SOUCHE® is based on proven industrial standards

SOUCHE® is a software suite that offers the following functionalities:

1. A development framework compatible with .NET Framework 3.5 (SOUCHE®) and .NET Compact Framework 3.5 (SOUCHE® Compact) that makes it possible to develop **mobile applications** and manage the following components:
   - **Mobile interfaces**
   - Low-level layers for mobility (connectivity management, data access, synchronization clients, GPS module, etc.)

2. A synchronization tool (SOUCHE® Server) that:
   - Exchanges data between the IS and a fleet of mobile terminals (scheduling, manuals, work orders)
   - Industry data formatting
   - Data integrity and security management

The diagram below shows how the three software modules in SOUCHE® are positioned:

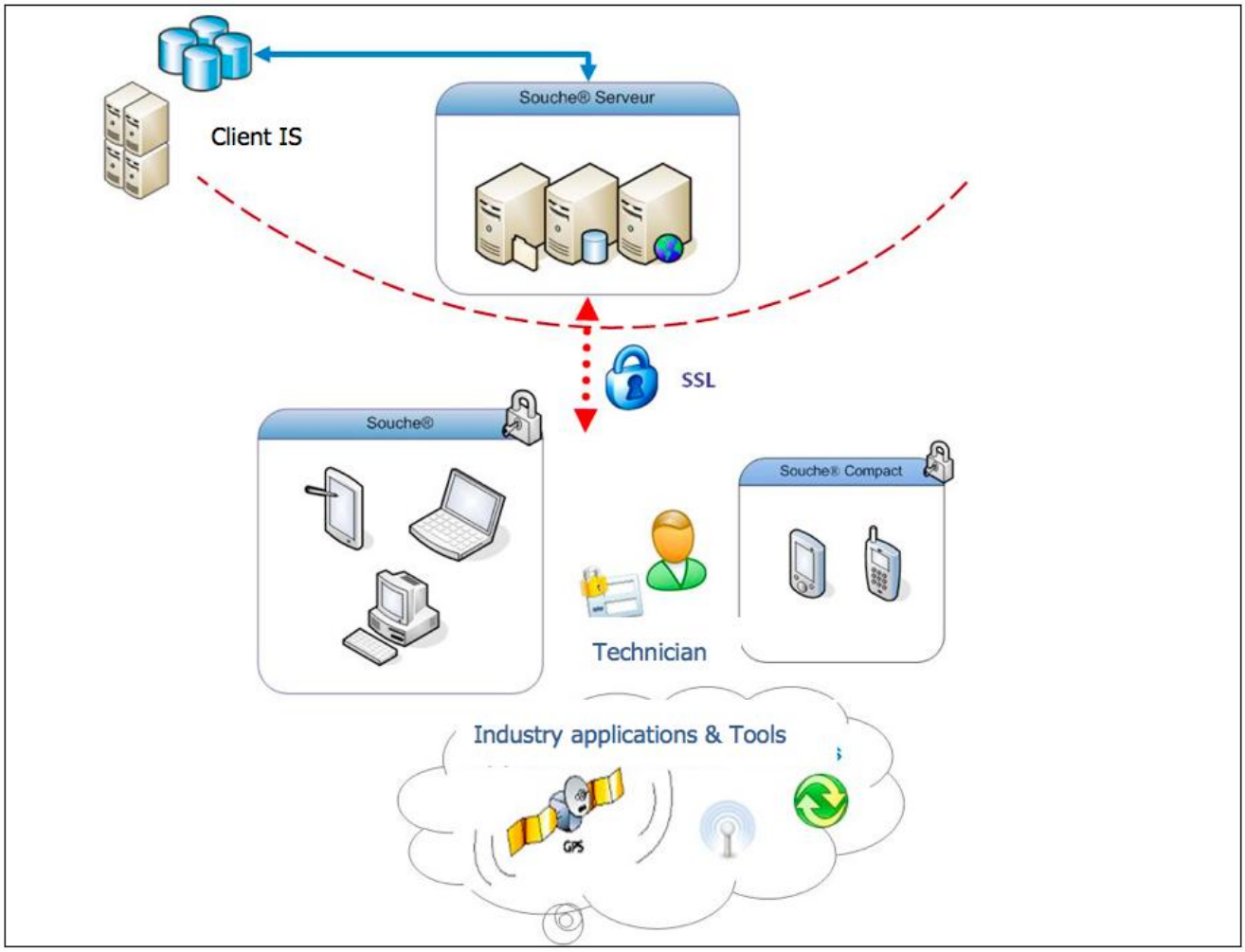


Figure 1 – SOUCHE architecture

3.2. SOUCHE is based on modular architecture

SOUCHE® is based on modular architecture for both the Mobile Client part (SOUCHE® and SOUCHE® Compact) and the Synchronization part (SOUCHE® Server). This design makes it possible to:

- provide an **abstraction layer** between the low-level software and hardware layers and the applications developed in SOUCHE®,
- ensure **sustainability for the modules developed** in SOUCHE® when the hardware is upgraded or new functional components become available.

The architecture of SOUCHE® includes:

- **Functional modules** that interface with the hardware and implement the low-level layers enabling mobility.
- **Controls** that generate system status reports (battery, network, etc.) and format the viewing controls and data collection (tables, lists, dropdown lists, calendar, etc.).
- **Modules** that form the application-related part of SOUCHE®. Each module is an application that accesses the low-level software and hardware layers through the functional modules and

the controls. A module can be an industry application or a general module that all the other modules can use (GPS, Schedule, File Folder, etc.).

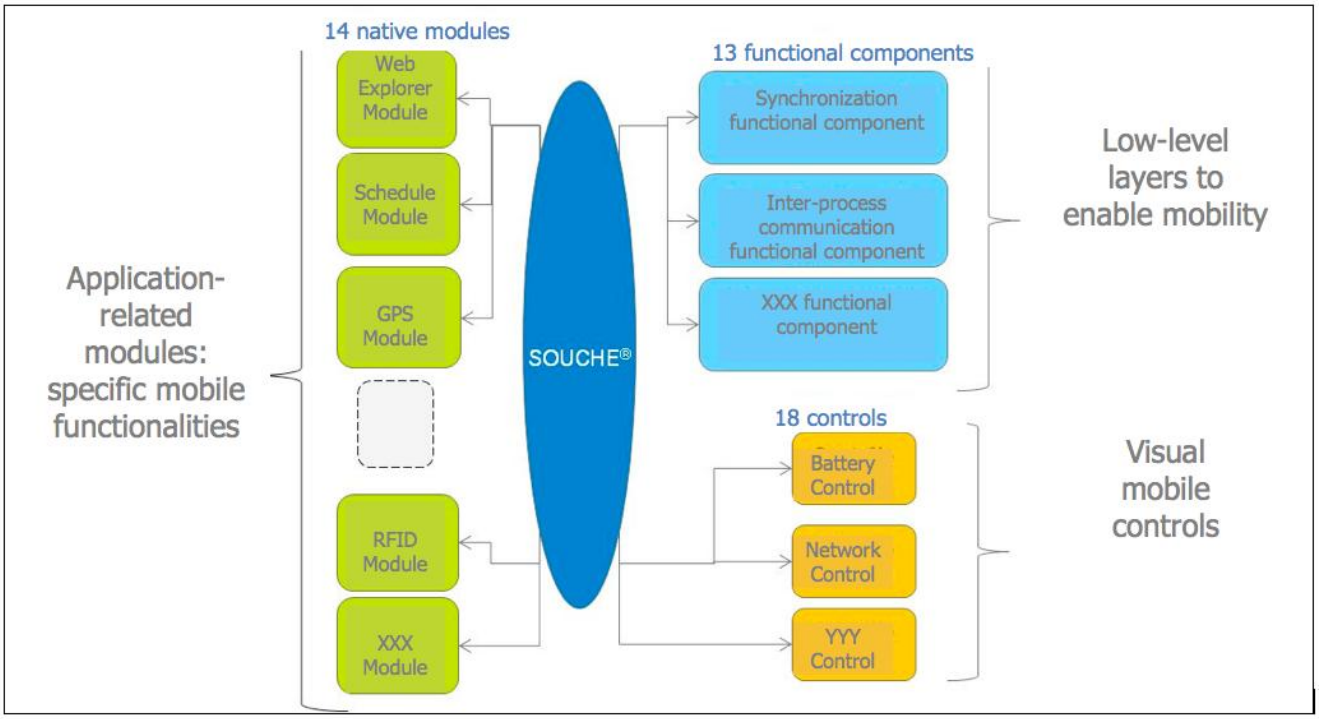


Figure 2 – Modular architecture in SOUCHE®

The main difference between SOUCHE®, SOUCHE® Compact and SOUCHE® Server lies in the types of functional components, controls and modules implemented. All three components share the same architecture and the core system.

3.3. SOUCHE® Server: The tool that makes the Information System (IS) mobile

The primary role of SOUCHE® Server is to **adapt the data** from the IS to the mobile data required to make the industry modules operable (schedule, files, work order, service call log, etc.).

In addition, SOUCHE® Server makes it possible to manage the mobile fleet by:

- administering permissions and user profiles for SOUCHE® and SOUCHE® Compact
- collecting the usage indicators generated by SOUCHE® and SOUCHE® Compact and generating reports.
- Lastly, SOUCHE® Server includes a file download and upload client. This system prepares and segments files to optimize transfer speeds. SOUCHE® Server also handles data integrity and manages network outages.

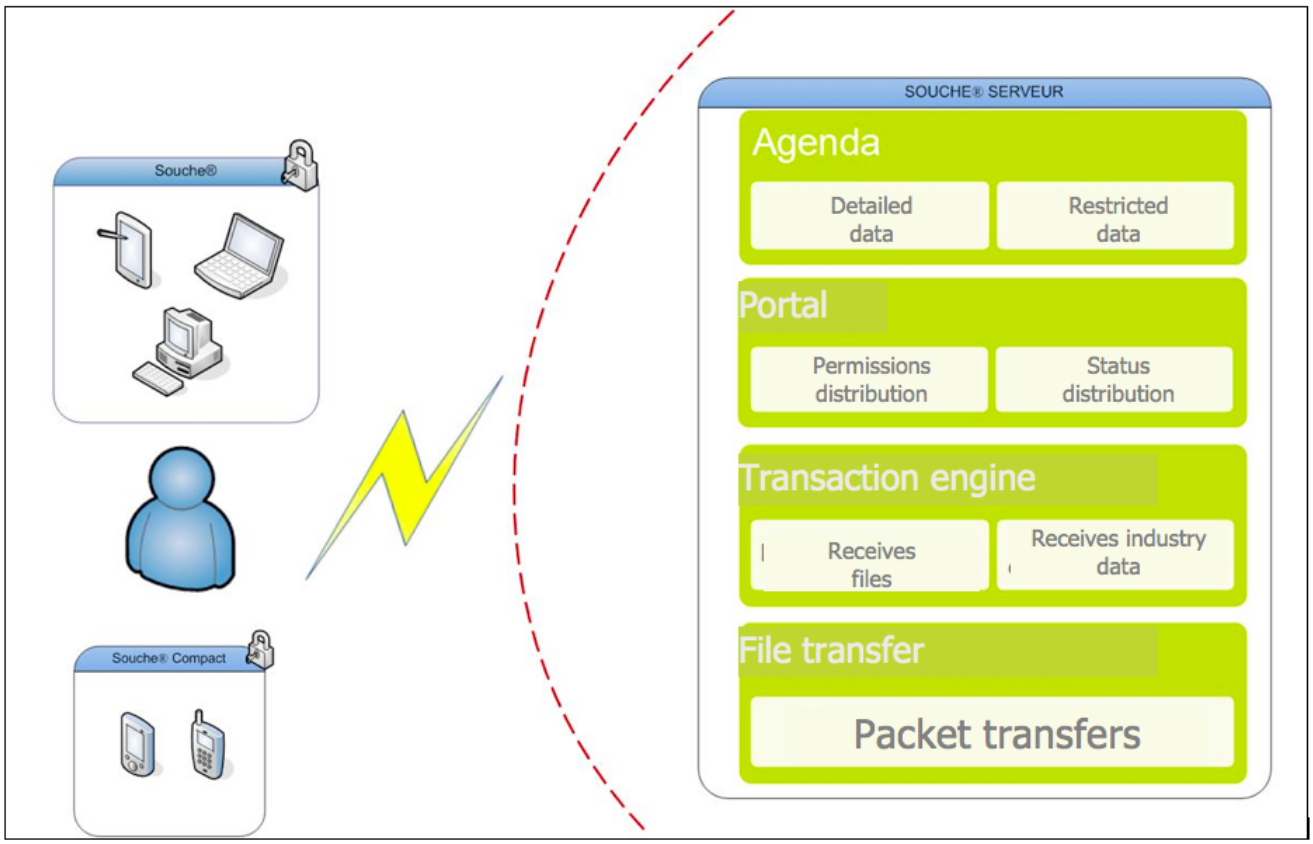


Figure 3 – Functionalities of SOUCHE® Server

3.4. GDF SUEZ provides full services offering

GDF SUEZ supplies, supports and maintains the SOUCHE® framework. It also offers the following related services:

- **One license per workstation per year, which includes:**
  - Annual user's license for SOUCHE® software
  - Annual development license for the SOUCHE® software SDK
  - Corrective maintenance for SOUCHE® software
- **Technical support packages**:
  - Level 1 Support for mobile application developers for SOUCHE® software
  - Level 3 Support for users of the mobile applications developed on the SOUCHE® software
- **Services**:
  - Architecture:
  - Partial or full development of the System.DAT (including data stream, security)

- Partial or full development of the Technical Architecture Document
- Guidance in adopting the solution
- Integration of existing modules
- User training
- Transition management assistance

- **Support:**
  - Module design (technology selection, ergonomics, etc.)
  - Development of modules and plug-ins
  - Validation and deployment of the solution
  - Testing management
  - Feedback

4. OPERATIONAL DEPLOYMENT IS ON GOING IN NATURAL GAS DISTRIBUTION AND TRANSPORT NETWORK GDF SUEZ SUBSIDIARIES (GRDF & GRTGAZ)

The simplicity and flexibility of SOUCHE® offer a chance to combine the GDF SUEZ Group's mobile solutions tailored to each BU's specific needs. SOUCHE® has been introduced in two BUs in the **infrastructures division, GrDF and GRTgaz**.

4.1. GrDF rollout: BILL mobile office

BILL implements SOUCHE® and most of the GrDF business applications

SOUCHE will be rolled out at GrDF in three phases:

1. An experimental phase in two regions with a very limited number of employees (2010)
2. Functionalities expanded to the network call scheduling system (2011)
3. Gradually standardized for all the employees involved

GrDF has asked CRIGEN to work on setting up SOUCHE to provide support for the following trials:

- **The THEO trial** in the Mediterranean region (10 agents),
- **The IS Artisan trial** in the eastern region (4 agents).

These trials are testing a new planning model based on the premise that the participants are assigned all the gas distributor's activities. The BILL Mobile Office has to provide these participants all the applications they need to work in the field on a single computer terminal. Eventually, 1,000 GrDF employees will be using this new mobile device.

BILL has been tested since May 2010 and it enables realizing with a unique tool the following activities:

- **Maintenance activities with CAMM application named GMAO Mobile** (computer-assisted maintenance management) and mobile inventory applications. These applications equip maintenance tasks on the network and supply field workers with the data they need for service calls so that the data entry for readings is done sooner after the call, which means the entry is of better quality. The server's databases are updated when BILL is connected to the computer network,

- **<u>Emergency activities</u> with application named CIIGaz** (Data Collection of Gas Incidents and Calls): safety is a very serious concern for GrDF; this application tracks safety and repair calls on the network,

- **<u>Customer Management activities</u> with applications named Pictrel and Niveau 1** (Real-Time Customer Call Management) is shared with ERDF and is a computerized management tool for any Quick Service Calls in customers' homes. It stores a description of the task to do and work logs,

- **<u>Geographical IS (GIS) activities</u> with the application named Caraibe-nomade:** digital platform displaying a large-scale map of the distribution network.

In addition to the Business applications, some tools are also implemented:

- GPS navigation system.
- Intranet browsing system

<u>BILL aims at testing a wide variety of equipment</u>

The BILL Project is testing a wide spectrum of terminals: rugged/non-rugged, with/without a keyboard, with/without a rotating screen.

Figure 4: mobile terminals tested in the BILL Project

Two vehicles were also equipped with a remote screen (safety standard compliant) so the navigation can be seen from the driver's seat.

Figure 5: Vehicle setup with BILL's remote screen (left) and slot in the back (right)

<u>Thanks to SOUCHE® server and O2+, BILL will be able to provide planning and work datasheets</u>

A communication platform called SyncBILL based on SOUCHE Server component was set up so data could flow between the mobile applications available on BILL (mobile CAMM, mobile PICTREL, etc.) and their upstream IS (the CAMM Server, PICTREL server, etc.). The platform performs advanced functionalities like data integrity controls or transfer recovery after a network incident. It also offers a solution for data streams between the computers in the Mobile Office.

BILL and SyncBILL makes the company's IS mobile for better control of the Call Management System (CMS). The next step for BILL and SyncBILL is the introduction of the O²+ Project which consists in delivering on the Mobile Desktop:

- The activities planning
- Work datasheet
- Gas network equipments access authorization

The GrDF distributor opted to run tests throughout 2011 and the O²+ Project, which will link BILL with O², the network call scheduling system.

So, field agents with access to BILL will have their schedules, Work Orders and Work Permits right on their terminal.

O²+ will be able to convey two main data streams:

- Data going from schedulers to the agents to send them any changes that need to be made to the job.
- Data going from agents going back to the schedulers to send them information on the progress of the call, such as call started, call completed, etc.

BILL and O²+ are making call management at GrDF more effective.

4.2. GRTgaz rollout: NOMADE project

SOUCHE® was implemented starting in 2010 for the **NOMADE Project. Nearly 1,000 field technicians** in three large teams are using it: **Zone teams** (network monitoring, gas unit maintenance), **Pipeline Integrity teams** (effectiveness of the cathodic protection for equipment) and **Special Techniques teams** (metrology for measuring devices, gas readings at network interfaces).

The preferred mobile device so far has been a rugged tablet computer. It is a portable computer with a 10" pivoting touch screen that turns into a touch tablet. It is drop resistant (at about 1 meter), **designed for 'field' use**, interactive, wireless enabled, replaces the existing hardware and comes with:

- **an office docking station so it can be used like a desktop computer,**
- **several vehicle integration solutions** for navigation and network monitoring functions.

Figure 6: The NOMADE tablet being used on a service call

The SOUCHE® program was configured to meet all the needs of GRTgaz's technical division. The simple and user-friendly graphic interface provides access to all the applications technicians require, more specifically:

- **Call scheduling:** every technician has a call schedule that the foreman updates as needed.
- **CAMM (C**omputer-**A**ssisted **M**aintenance **M**anagement**):** maintenance calls are tracked onsite thereby making the data reliable. Data is synched with the IS (Information System) and can be done either remotely or in the office. Plus, the data are stored onsite in RFID tags (Radio Frequency Identification) to facilitate future calls. These data can be modified and updated, i.e. for stand-by calls.
- **Network monitoring**: preventing damage caused by third parties (construction companies, etc.) is a major safety concern for GRTgaz. The application takes input on section-by-section GPS traces of pipeline inspection rounds. It enables GRTgaz to provide factual evidence on its inspections to the DREALs (Regional Directorates for the Environment, Development and Housing).
- **Mobile SIG (Geographic Information System):** this system contains mobile views all the mappings of the transport network. It provides access to up-to-the-minute data, makes paper maps obsolete, receives and sends annotations, mainly any discoveries of illicit construction sites located close to equipment, security warnings, etc.
- **The 'ETAlonnage sous Assurance Qualité' (Quality Assurance Calibration) (ETALAQ+) for metrological devices and the 'PROTEction Cathodique' (Cathodic Protection) (PROTECA) for pipelines are some of the solutions making paper documents obsolete.** They optimise the processing of Call Logs (CL) for metrological inspections on measuring instruments and the receiving/sending cathodic protection readings. Data is entered directly from the field, no more double or triple entry processes.

The diagram below shows various interfaces available to the user. A touch screen makes it easy to access and have many programs open and active at the same time.

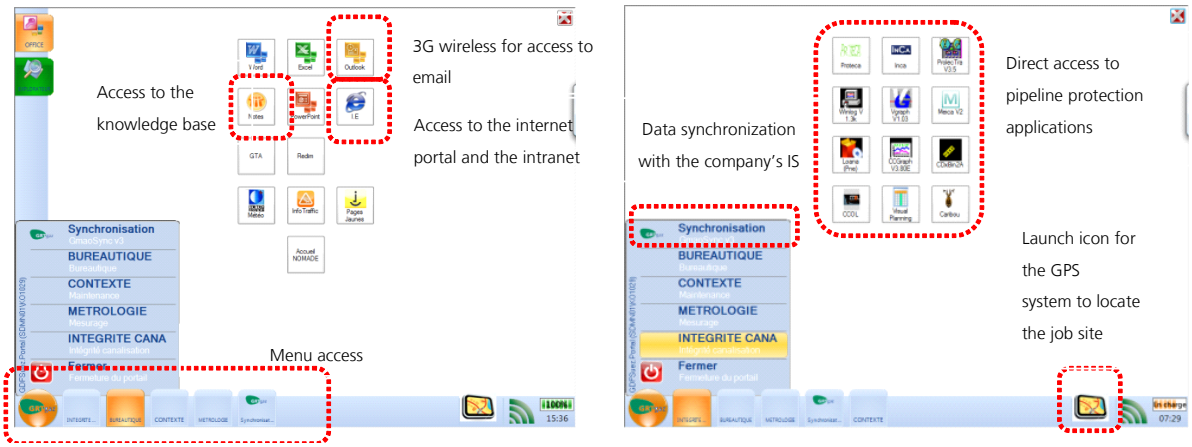


Figure 7: The user interface provides mobile access to desktop applications (left) and industry-specific applications (right)

5. THE RESULTS OBTAINED TODAY ARE VERY CONVICING

5.1. SOUCHE® brings pioneering feature

This solution's pioneering features include the SOUCHE® Software Framework developed by CRIGEN to meet the mobile needs of GDF SUEZ's field technicians. **This framework integrates all the functionalities (sync management, data access, connectivity controls, consistent ergonomics, etc.) the company needs to introduce mobile applications.** This enables GDF SUEZ's business units to develop their industry-specific modules.

An innovative factor is the option to have a single work device that provides access to all the industry and office applications in the field and in the office. It is the first time this kind of system has been developed.

Lastly, SOUCHE® **comes in a PC tablet version and a PDA version,** which covers a BU's mobile needs. The CRIGEN is in the process of filing a patent for SOUCHE®**.**

5.2. Rollout progression

At GrDF, the **BILL** Project has been tested in two regions since May 2010 (Mediterranean and the East). **Fifteen agents** are involved in this testing. Testing in 2011 will be expanded to include more agents in the Mediterranean and eastern regions for a total of about **50 agents** who will have BILL installed on their terminals.

With regard to deployment, if the results of the BILL tests are conclusive, **1,000 terminals** will be equipped with SOUCHE® by 2015. The pace of deployment will depend on the rollout of the projects for the Meter Reading Operator programme.

GrDF is also working with the CRIGEN on a **PDA version of BILL** called BULLE (*Bureau Ultra Leger*, or Ultra-Light Office) that will be tested **in 2011.**

At GRTgaz, the three teams involved in the **NOMADE** Project have been in the pilot phase since the last quarter of 2010. **About 30 people are participating**. In the second quarter of 2011, most of the industry applications will be available, which will validate the test phase. The national deployment will equip about **400 technicians by late 2011.** The rollout is scheduled to end in **the first half of 2012**

when nearly 1,000 technicians will be equipped with this solution when conducting their service calls.

5.3. Wider rollout potential

Distribution of the CRIGEN's invention currently involves almost 2,000 people (GrDF and GRTgaz). It has great potential for wider distribution and the innovation is not just limited to the Infrastructure Division. It is designed for field technicians and suited for GDF SUEZ's other BUs, even for any other company experiencing mobile issues.

5.4. SOUCHE® brings value in CAPEX, OPEX and industrial security

- **Development cost**. SOUCHE® cost €800,000 to develop. This breaks down as follows:
  - Cost of conception and needs analysis: €150,000
  - Cost of software development: €400,000
  - Cost of test phase: deployment, transition support, devices, etc.: €250,000

- **Lower costs to develop new industry applications:** 20% reduction in time spent on IT development because of a framework customized for mobile issues.

- **Possible lower direct costs**
  - Optimizing travel times and preventing additional trips ➔ less petrol consumption and vehicle maintenance.
  - Reducing administrative tasks and printing by digitizing forms ➔ less paper consumption.

- **Better call efficiency**
  - Access to materials and data (operating procedures or checklists), better customer knowledge, better long-term monitoring, improved quality and integrity for field data, elimination of double entries (i.e. work orders or meter index data collection), etc.
  - In terms of service calls, preliminary results of the pilots should confirm the expected gains:
    - For GRTgaz, nearly 200,000 service calls every year, a savings of a few minutes to 45 minutes (preparation, data entry and fewer double entries),
    - For GrDF, 1,500,000 service calls every year, a savings of 10 minutes per call (preparation and fewer double entries).

  These gains were obtained by breaking down every field process into basic tasks to determine which tasks have become obsolete by using the mobile devices.

  Estimated gains in operating costs are in the order of €1 million per year for GRTgaz (minimum value) and €4 million for GrDF.

- **Better tracking for service calls:**
  - In terms of customers or third parties (administrations) as proof the call was effectively completed (equipment put into service), maintenance or monitoring.

  In 2010, the service calls performed using mobile devices will be used to show third parties what type of technical work was done on the network. This will help create an image of transparency for the gas distributor and transporter, will impact the perception and satisfaction of consumer associations, the Energy Ombudsman, customers, public authorities. The information collected in the field will also serve as incontestable proof if a customer or supplier complains.

- **Better working conditions**
  - A single IT tool is like giving service technicians a computerized Swiss Army knife. Beyond improving working conditions, it reduces the overall amount of computer hardware. At

GRTgaz, they are seeing a reduction from 20% to 40% in the computer base, all hardware combined.

- **Simpler management follow-up**
  - Better skills management through direct electronic entry of service call logs, task monitoring

- **Improved safety for people in the field**
  - Alerts, responsiveness in an emergency

- **Improved industrial safety** through wider visibility of parameters and faster responses, mainly by choosing and rerouting employees who are closest to the gas emergency.

- **A positive impact for the company's image and the Group's image**: internal and external (customer) satisfaction, new services, modernized image, sustainable development (eliminating paper). Externally, the tools are still not being used very much to measure actual satisfaction. But internally, feedback from the pilots shows technicians are anxiously awaiting these new tools.

5.5. A quick Return On Investment (ROI)

For GrDF, the return on investment (ROI) for the mobile part of the MWM (Mobile Workforce Management) Project was assessed at three years. This ROI chiefly comes from operating cost savings.

For GRTgaz, the ROI on the NOMADE Project was also assessed at three years..

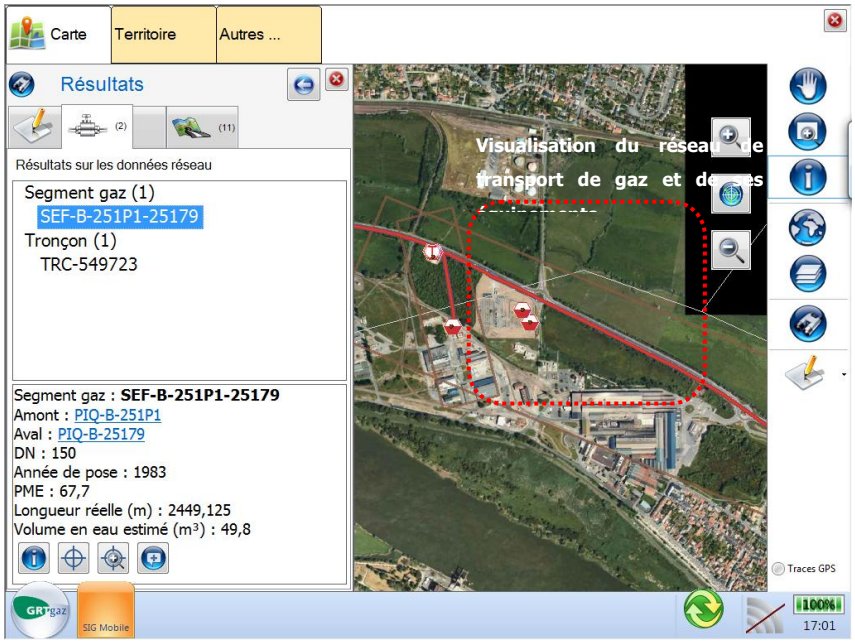


Figure 8: Geographic Information System accessible in the field

APPENDIXES

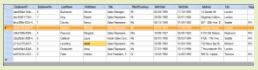
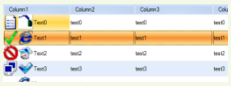
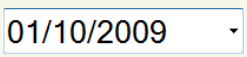
Specifications for the SOUCHE® Functional Components

The table below contains descriptions of the various functional components and their availability on SOUCHE® and SOUCHE® Compact:

Functional component	Description	SOUCHE®	SOUCHE® Compact
Mobile Office	Operational GUI that covers the target design model and optimal ergonomics	✓	✓
Synchronization	Syncing organizer separate from the synchronizing solutions being used	✓	✓
Support/maintenance	Manages logs and traces to facilitate support and maintenance tasks	✓	✓
Local inter-application exchanges	A communication engine that enables data exchanges between the various applications embedded in the mobile office	✓	✓
User profile management	Manages restrictions to functionalities according to profile status	✓	✓
Event management	An engine that manages program events	✓	✓
Connection management	A tool that allows the mobile office to interact with the hardware's connection (displays connection level, alerts when disconnected, etc.)	✓	✓
Graphic charter/ Theme	A graphic style code that all the mobile office components has to follow	✓	✓
Error management	Standardized displays of application-related errors	✓	✓
Usage indicator	Usage meter for functionalities in the technician portal	✓	✓
Workflow	Modelling and IT management for all tasks to carry out and the various participants involved in completing a work process	✓	✗
Remote mode	Manages communications with mobile peripherals, i.e. Windows Mobile	✓	✗
Status management	All the data shared by the applications managed by the mobile office	✓	✓

Specifications for the SOUCHE® Controls

The table below contains descriptions of the various functional components and their availability on SOUCHE® and SOUCHE® Compact:

Control	Description	Display (1)	SOUCHE®	SOUCHE® Compact
Change in availability	Control that enables mobile office users to change their status (available, do not disturb, etc.)		✓	✗
ProgressBar	Progress bar		✓	✓
BatteryMonitor	Battery status		✓	✓
Clock	Displays local time		✓	✓
Battery Clock	Clock and battery display		✓	✗
ConnectionWatcher	Control showing connection status.		✓	✓
ConnectionWatcherWithIAG	Control showing 3G connection status (signal strength) and connection status for IAG (secure remote connection solution).		✓	✗ (2)
RAPIWatcher	Mobile control showing connection status with the PDA via ActiveSync.		✓	✗ (2)
DataGridView	Displays data in a table		✓	✓
ListView	Displays items in a list		✓	✓
Calendar	Calendar, date selection		✓	✓
DateTimePicker	Calendar, date selection		✓	✓
TabPage	Horizontal or vertical tabs		✓	✓

TravelButton	Manages page history		✓	✗
StartBar	Control that displays connection status. It groups together the application menu, quick start bar, status bar and tabs showing which modules are open in the portal.		✓	✗ (2)
StartMenu	Interface that displays and launches the user's authorized modules		✗	✓
ControlBar	Control displaying the status of several elements in SOUCHE: • connection • battery status • time • manager for open modules		✗	✓
VerticalMenuBar	Application submenu		✓	✗
NumericUpDown	Numeric value selector		✓	✓
TimePicker	Time selector		✓	✗

Notes:

(1) The icon shown is used in SOUCHE® (on desktop or tablet). The are slightly different than the icons in SOUCHE® Compact (PDA).

(2) Not available in PDA environment

Specifications for Native SOUCHE® Modules

The table below contains descriptions of the modules that are native to SOUCHE® and their availability in SOUCHE® Compact:

Module	Description	SOUCHE®	SOUCHE® Compact

Synchronization centre	Displays status of synchronizations, launches synchronization for one or all	✓	✓
User settings	Manages module versions in the mobile office and customizable user settings (touch screen calibration, etc.)	✓	✓
WebExplorer	Module that displays a web page (local, intranet, extranet, etc.)	✓	✗
Schedule	The user's appointment book	✓	✓
RFID	Manages the Bluetooth RFID reader peripheral	✓	✗ (1)
GPS	Manages GPS in the mobile office and the port multiplexer	✓	✓
Outlook 2007 syncing	Synchronizes the appointment book with user's Outlook	✓	✗
InfoPath form	Displays Microsoft InfoPath form	✓	✗
Explorer	Displays the contents of a file registry in the mobile office	✓	✗
Application launcher	Set of customizable buttons used to start internal modules or applications external to mobile office	✓	✓
File download/upload	Graphic interface that monitors file transfers	✓	✓
Transaction	Module that sends transactions	✓	✓
Navigation assistance	Communicates with the PTV Loxane Fleet Navigator program	✓	✓ (2)

Notes :

(1) Unless the PDA has an integrated RFID reader.

(2) Integrates with a navigation assistance program installed on the PDA

Specifications for Functionalities on SOUCHE® Server

The table below contains descriptions of the various functionalities on SOUCHE® Server:

Functionality	Description
Administration	Administrative website for: - Users and user groups - Modules - Module links – user groups - Module links – user - Dashboard - Analysis
File transfer	Transfers files in packets with error recovery
Transaction engine	Engine that receives generic data to ensure: - unity of data reception - unity of data processing - data integrity
Web services synchronization Schedule	Synchronizes mobile office schedule
Web services synchronisation Permissions/Modules	Synchronizes user permissions in the mobile office