

## Luceos Smart Service Management

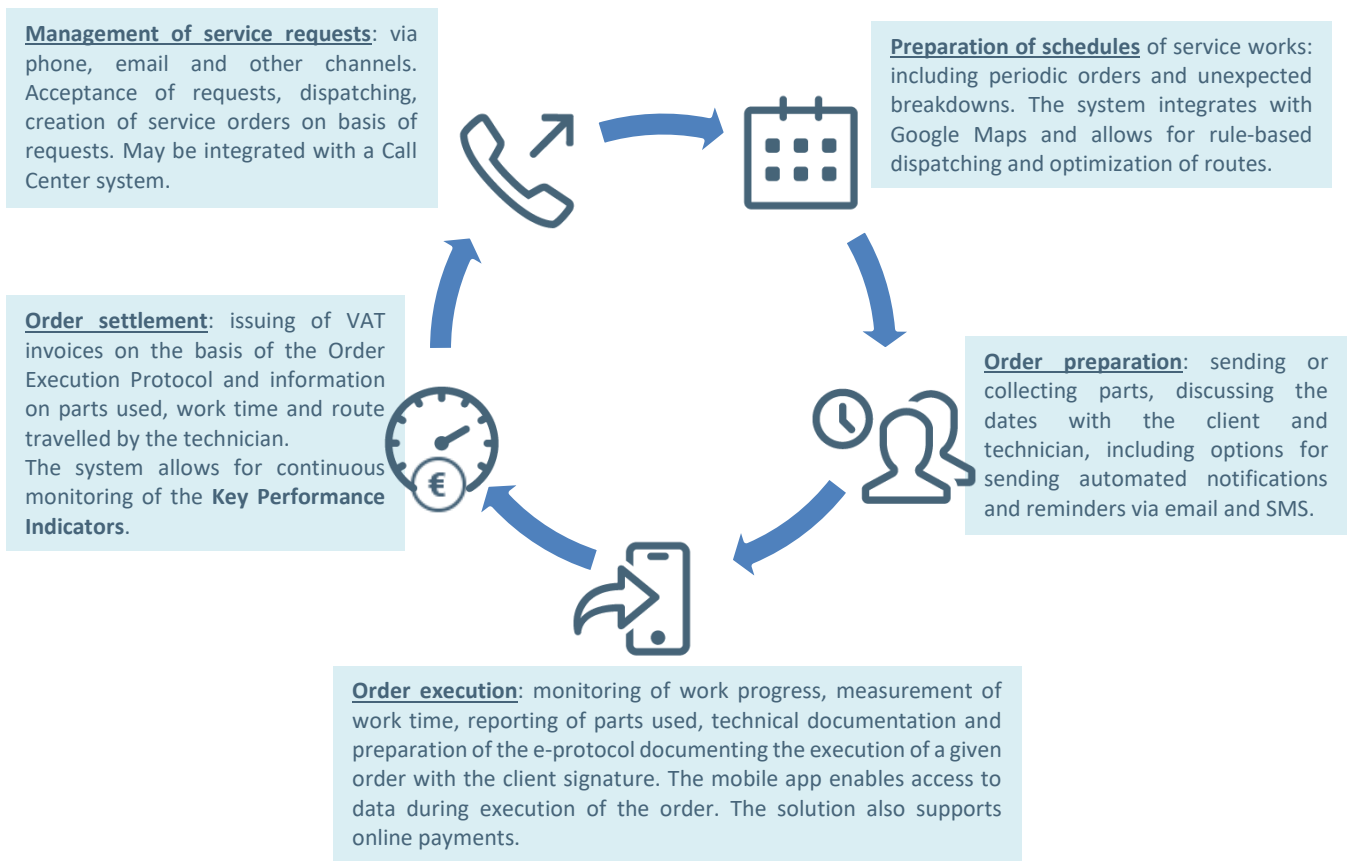
Smart and Easy  
Field Service Management

Functional Modules

**Luceos Smart Service Management** is a solution supporting field work force management, including field equipment and technical infrastructure.

The system consists of a family of **WWW Portals** developed for Managers, Coordinators, Customers and Partners accompanied by set of **Mobile Applications** for the service technicians, engineers and customer employees working in the field. The solution can be integrated with elements of technical infrastructure using various technologies and protocols.

The key functionality of the **Luceos Smart** solution supports the service order lifecycle in the following areas:



The key advantages of **Luceos Smart** Service Management are:







**Luceos Smart Service Management** is offered as a service (Software As A Service).











At the client's request the service may be installed on a dedicated server - both in a data center of the client or a data center managed by the **Luceos Smart** team.

The main functionalities available through **Luceos Smart Service Management** are:

Functions included in the module: Order Management

			
Service Orders	Clients, Equipment and Location Data	Electronic Service Report	Google Maps Integration

Other functions and modules:

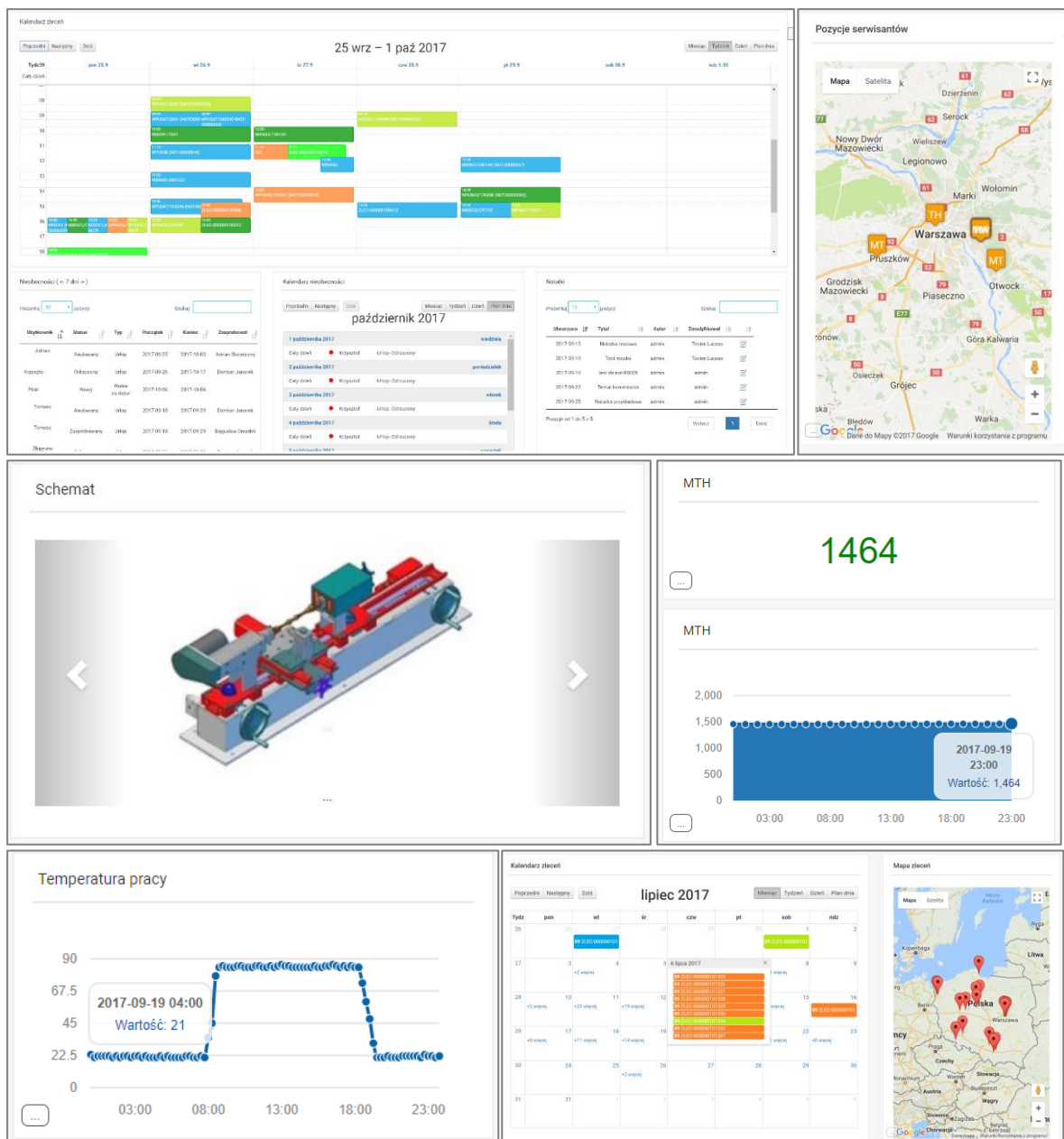
			
Work Times	Offers, Parts and Services	Service Requests	Absences
			
Call-Center Integration	Documentation and Photos	Email and SMS Notifications	Key Performance Indicators (KPIs)
			
Google Integration	Service Regions	Mobile Employees Routes and Positions	Delegations
			
Skills Matrix	Service Checklists	Mobile Payments	Mobile Inventory
			
Portals and Mobile Apps	Integration	Service Contracts	Business Intelligence
			
Tasks	Projects	Voice Notifications	Internet of Things

The data safety and confidentiality of our clients are our priorities. The way in which clients' data is secured is described in [Data Safety](#).

All the above modules are tightly integrated and together constitute a solid solution. All key functions provided in our mobile applications are available also in off-line mode, when mobile internet is not available.

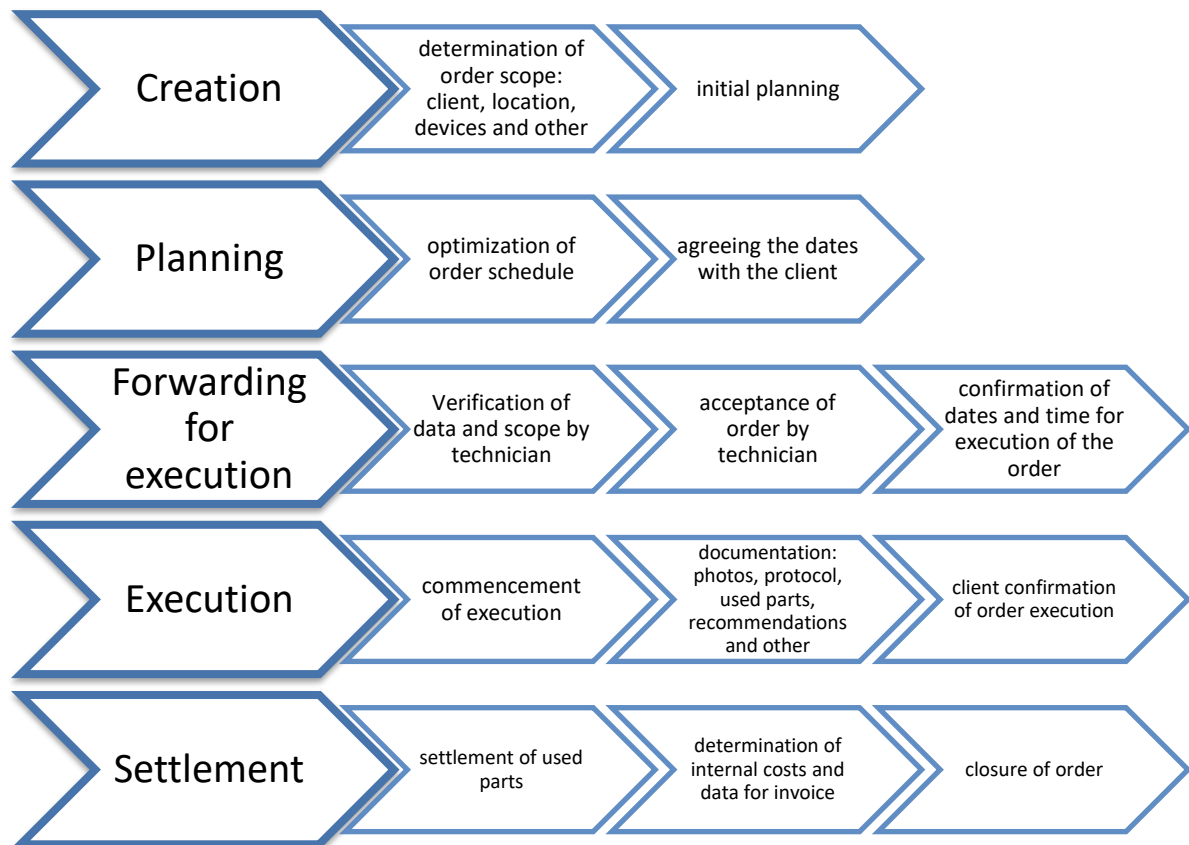
Information and processes managed by various modules can be organized in highly customizable dashboards. Their content and available functions can be customized depending on the roles and privileges of users.

Examples of such dashboards are presented below:



## 1. Service Orders (Order Management Module)

Service orders are the basic element in the management of service processes. **Luceos Smart** offers a wide set of functionalities that are intended to optimize and facilitate scheduling, dispatching, execution and settlement of orders.



The above steps in the process may take into account information managed by supporting modules like:

- Absences – availability of the team, taking into account vacations and sick leave.
- Geographical maps of team coverage and technician locations – a map view of team coverage areas as well as the current and planned locations of technicians.
- Skills Matrix – expertise, experience, skills and formal requirements of technicians (including certificates and authorizations).
- Internet of Things – which enables bi-directional, real-time communication between Luceos Smart and all maintained equipment into **Luceos Smart** using a wide selection of protocols and technologies.

**Creating an order** is one of the basic functionalities in **Luceos Smart**. The system makes it possible to define - in a quick and easy way - the complete set of information that is needed for professional execution of a service order.

When creating an order, the following key attributes may be defined:

- The client for whom the service is to be executed (including contact people on the client side),

- scope of service, with an indication of serviced devices,
- place and time of execution,
- technician responsible for execution of the service order,
- other information, e.g.: list of parts to be collected before commencing the service.

The orders can be created automatically, if they are repetitive or when they stem from a service request.

**Planning** - the next step in order management. The goal is to create an optimal plan of execution of service activities by the field service team. This process is supported by the order calendar function (with Google Maps Integration), which allows for, among other things:

- Checking who is working, or who will work, in the area with open service orders.
- Identifying and visualizing the service orders executed by the team and individual technicians in a given period - the calendar offers: day view, week view and two monthly views.
- Using the map to define and present routes between locations of planned orders; suggest optimal order for execution of the service orders.
- Dividing service activities between technicians in such a way that the time and spatial distribution ensures optimal utilization of assets and take into consideration priorities related to different orders and clients.

Thanks to the on-line access to the progress of current orders, it is possible to make quick and optimal decisions in case of sudden breakdowns, delays in execution of the plan or problems with the availability of technicians.

The order calendar also enables presentation of absences or other limitations in the availability of technicians.

**Forwarding for execution** - at any moment during execution of the defined plan, the orders may be forwarded to individual technicians. The system ensures that:

- The technician immediately obtains full information about the new order and can start working on it.
- The technician can access the history of previous service activities with a client and the documentation of the device.
- The technician accepts an order by changing its status, which is also visible in the order calendar.

**Commencement of order execution** by the technician is the start point for collection of data which is immediately sent from the mobile app to the main database of **Luceos Smart**.

At this stage:

- The system measures the working time of a given technician - both spent on actual work as well as travelling and administrative work.
- The technician documents execution of the service order and attaches photos taken during the work or information on parts that were used for repairs.

- The system allows for settling the used parts and the parts themselves can be assigned to an order: during its creation, added later from the parts catalogue available in the system (also via the mobile app) or added from outside the catalogue, e.g. if such parts were purchased by the technician in an outside store during execution of the service order.
- At the end of execution, the mobile app enables collecting the client signature and automatic creation of an electronic report (Service report). The report may be immediately sent to the client and is saved in the system as a PDF file.

**Settling of orders** - after the order execution is completed the system allows for settling the related costs. This process finalizes the activities related to collected, used and returned parts and prepares data needed to settle internal and external costs of the order, including creation of an invoice for the client.

The following modules help to complete this process efficiently and without unnecessary delays:

- Mobile Payments – allows technicians to bill a customer and receive payment immediately in the field.
- ERP and CRM integration – allows automatic and real time update of customer data including the generation of bills, invoices and inventory documents which can be provided to the customer via e-mail, SMS, web portal or mobile application.
- On-line, SMS or IVR questionnaires – allows for automatic and effective collection of customer feedback through most appropriate or convenient channel.

## 2. Client, Equipment and Location Data (Order Management Module)

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**Luceos Smart** has advanced functions related to the management of an extensive client database, which includes information on their devices and locations, embedded with the order management system.

**Luceos Smart** stores and makes available the following data to users, including field employees:

1. Client data:
  - Name,
  - Address data for registered office and correspondence address,
  - Contact data, including the list of contact people,
  - Data related to client management such as service agent, dedicated technician, dedicated coordinator,
  - Other, including customizable fields,
  - List of devices,
  - History of orders, including information on time worked, parts replaced,
  - Documentation related to the client.
2. Device data:
  - Device specifications: name, serial number, model, category, type, producer,
  - Owner and administrator information,
  - Information on warranty, including the start and end date,
  - Date of handing over to the client and installation date,



- Installation location,
  - Information on different counters (e.g. number of cycles of an elevator, running time of an engine),
  - Structure of a device: list of parts constituting the device,
  - History of parts utilized,
  - History of orders,
  - Documentation of the device, including photographic documentation,
  - Other information, including customizable fields.
3. Location:
- Name of the location,
  - Address data: street, home number, city, post code, country,
  - Geographical location is automatically set by the system during the geo-coding process,
  - Additional information, including customizable fields.

**Luceos Smart** also links these objects to orders, requests and all other data generated during the planning, execution and settlement stages.

As the system is integrated with Google Maps, where location data is available, it is also displayed on the map.

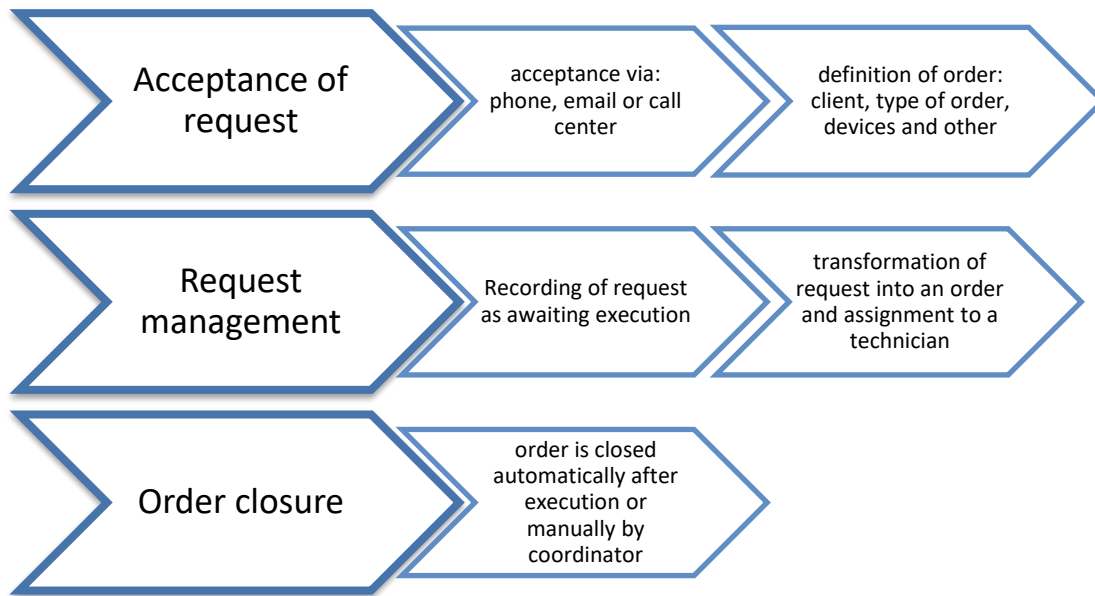
**Luceos Smart** is integrated with Google services and with national registers simplifying the capture of addresses and company data.

### 3. Service Requests

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Acceptance of a request is the first stage in the provision of service activities. However, not all requests are transformed into orders and not all orders end with a visit to the client. A company must control the requests it accepts and control how the number of requests translates into the number of actual service visits. **Luceos Smart** makes such management possible by registering and managing service requests (called notifications).





**Acceptance of a service request** - a given service request may be accepted in one of three ways. Regardless of how, the service request is assigned a unique number by the system.

- If the request was made by telephone, the coordinator may enter it into the system himself - he then sets the basic parameters of the request, such as:
  - title of the order and its type (selected from the client's dictionary),
  - client who made the request (including contact persons at the client's side),
  - priority of the request.
  - expected closing date of the request,
  - person responsible for the request (at the service's side).
- If there was an appropriate email address defined, the system will automatically receive and register service requests sent to that address. In this case the parameters of the request are also completed by the coordinator.
- The system may be integrated with the Call-Center services and systems for:
  - Automatic tracking of repeating calls.
  - Identification of a calling person/number.
  - Immediate access to calling customer's history and data.
  - Easy triggering of out-bound calls and sending of text messages.

If handling of requests by email is active, the system automatically stores the history of communication with a given client, including the content of messages, documents and other attachments that were exchanged with the client.

Service notifications may be also managed by customers and the service teams using additional modules:

- Dedicated web portals for customers and sub-contractors or partners.
- Dedicated mobile applications.

These modules can be customized for individual needs based on currently available applications and programmatic blocks.

**Order management** - when a request is registered in the system, it can be defined by:

- status (new, open, in progress or closed),
- priority.

The request may then be:

- converted to a service order and forwarded to a technician for execution (one request may be divided into multiple orders), or
- saved in the system as awaiting execution.

The system generates service request statistics that can be used to analyze:

- the number of requests accepted in a given period,
- how many of those were transformed into orders,
- the number of orders completed by a given employee,
- how quickly the orders were closed.

The system may also notify the client that a request was accepted or forwarded for execution by email or a SMS.

**Closure of a request** - the service request is automatically closed after the last order it created is executed. The service request may also be closed at any moment by the coordinator. The system may notify the client that an order was closed by email or a SMS.

## 4. Absence

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Information on the availability of the service team, and specifically on the absences plan, is a key element in the order schedule. The Absence module is accessible from both the web portal and the mobile app. The field employee notifies about his or her absence using the app and the coordinator is immediately informed. The coordinator approves or rejects the absence request of an employee.

The Absence module is integrated with the order calendar which allows the coordinator to easily see which service technicians are available and which are absent. This simplifies work planning and increases the effectiveness of the service team.

As the mobile app is synchronized with the portal, the coordinator is able to react quickly to changes related to employee availability. It also simplifies the acceptance process for vacation requests, which minimizes unnecessary administrative work.

The system also maintains multiple pools of vacations based on the absence history.

## 5. Work Times

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**Luceos Smart** enables precise measurement of the working time of the service team. The Start/Stop function in the mobile app makes it easier to log working time, including drive time,

order work time and other types of activity, such as breaks, administrative work, and training. The system also allows for reporting of time spent on vacation, sick leave and other types of non-working time. The set of types and categories for measured work time may be adjusted to specific requirements of each client.

Working time recorded by the service technicians using the mobile app can also be corrected. Editing the data is also possible in the portal for the service technicians, managers and system administrators. Data on working time may be supplemented by a comment or information on the distance travelled for work.

In cases of integration with a fleet management system, travel data can be automatically populated (if made available).

Additional features:

- Work time reporting by project.
- Travel time reporting associated with predefined vehicles.
- Automatic calculation of over-time (based on various rules).
- Automatic reminders about missing work-times, late reports or errors.
- Automatic calculation of internal and billable work and travel costs based on type of work, service order or contract rates.
- Verification and acceptance of work times by team leaders before they are used in reports or sent to external systems.

**Luceos Smart** also provides a number of reports related to working time, which can be created on request or automatically and then sent to all members of the team or to the managers as e-mail attachments. The system also provides a function for discovering possible errors in working time: deviation from norm or overlapping work times.

## 6. Offers, Parts and Services

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**Luceos Smart** provides functionality for catalogues of parts and services. These catalogues may be defined in **Luceos Smart** or imported from an ERP system or a warehousing/accounting system. Selected catalogues may also be made available in the **Luceos Smart** mobile app which enables management of parts and services.

Element of the catalogue in **Luceos Smart** contains the following attributes:

- name,
- ID in the ERP system,
- type (part, service),
- date of operation,
- producer,
- model,
- catalogue number,
- measurement unit,
- numbers: collected, used, other
- unit cost,
- margin value,

- discount value,
- VAT value.
- ... and many more.

Properly defined catalogues in **Luceos Smart** coupled with measurement of working time allow for precise measurement of internal cost of service activities, support strict control over spare parts and allow for error-free settlement of invoices with clients.

Device elements defined in the catalogues enable detailed knowledge about configuration of every device serviced in the **Luceos Smart** system.

Additionally, the **Luceos Smart** mobile app enables field employees to access the following data:

- structure of the serviced device,
- history of replaced parts,
- precise reporting of parts sent to the client, collected from the warehouse, utilized during the service, collected from the client and returned after execution of the order.
- detailed reporting of services provided,
- the system also allows entry of parts purchased from third parties (e.g. engine oil purchased at a filling station).

As the data is immediately exchanged between the mobile app and the portal it is possible to settle the order, issue an invoice for the client and trigger on-line/mobile payment immediately after the order is completed.

On basis of the parts and services catalogues, the system provides options to prepare and manage offers.

When an offer is prepared, the following are defined:

- Addressee and the descriptive part of the offer, including conditions and validity period.
- Cost estimation that includes list of parts and services including financial conditions: unit prices, quantities, margins, discounts, VAT and others. A discount may be defined at the level of individual elements and also for the whole amount.
- The template which will be used to generate a MS Word document.

The system enables management of different versions of the offer, their status and result (offer accepted, rejected) and also automatic generation of reminders related to the date on which the offer should be sent or a client should be contacted.

Additional features:

- Immediately identify equipment, parts and materials using the bar-code recognition system built into our mobile applications. Our apps use the smartphone camera with specialized software to recognize over 30 types of bar- and QR-codes.
- Hierarchies of components and parts – elements, parts, components, systems and devices can be organized in hierarchical structures.
- Automatic calculation of project costs based on parts and materials used in orders.



## 7. Electronic Service Report

After execution, order completion may be accepted in the **Luceos Smart** mobile app by creating a report which can then be signed by the client on the screen of a mobile device.

**Luceos Smart** generates a PDF file which contains all information from the report, including the client's signature. The report may also contain data from the execution of the order:

- from the original request,
- parts utilized,
- working time (including travel time).

The report is available in **Luceos Smart** as an order document and is available in the history of all the devices included in the order.

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		<b>SERVICE REPORT</b>	
Customer: DKC Ungvaria Kft Address: Belföldi út 70/110 7130 Tóbalja Type of order: Corrective maintenance		Order no.: ORD.00000018 Country: HUNGARY	
Machine type: CO1530 Machine SN: 16.2.C050130 Machine running hours: 3202 Laser counter (h): 1360 Location of the fault: Mechanics		Hotel: Airplane: Rental car: Other travel cost:	
<b>FAILURE DESCRIPTION:</b> The machine does not see			
<b>OPERATIONS PERFORMED DESCRIPTION:</b> Check the situation and found wrong type CLAMP sensor. The customer have changed it before and the sensing distance was shorter than the original. All the PINS were broken yesterday in the CLAMPs because they move the sensor to deep.			
<b>RECOMMENDATIONS:</b> Please, order the following item: 05451 INDUCTIVE SENSOR1pc			
Security checked, according to specification		X	
Security modified by client:			
Date	Engineer	Activity	Comments
17-12-2019	Imre	Travel hours (productive work)	05:30 08:00 200
		- after warranty	
17-12-2019	Imre	Corrective maintenance	08:00 10:00 0
17-12-2019	Imre	Travel hours (productive work)	10:00 12:30 200
		- after warranty	
Total hours of work: 02:00		Total travel time: 05:00	Total distance (km): 400
Code	Description	Quantity delivered	Quantity used
		0	0
Customer's signature:		Biro	
Date and time signature:		2019-12-17 09:57:48	

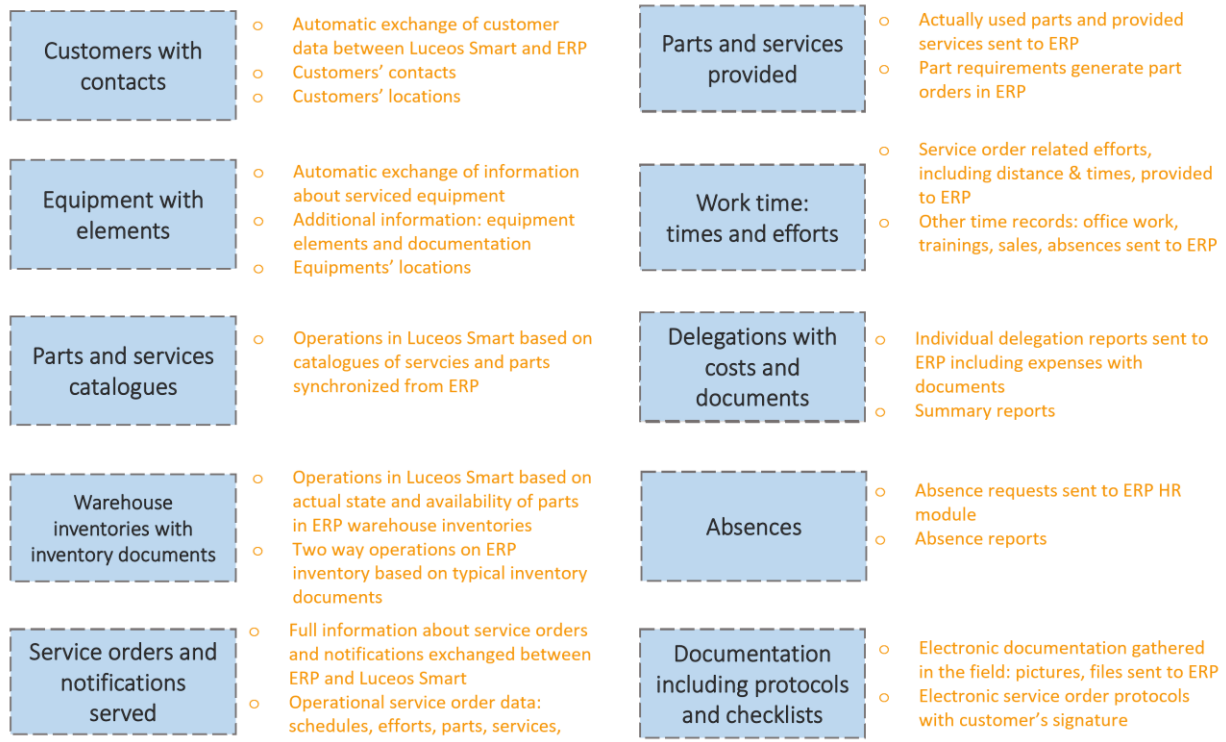
The data provided in the report, the document format, the communication channel and addressees are adjusted to the specific requirements of the Client when the **Luceos Smart** service is launched.

The Electronic Service Report may be supplemented with additional information on procedures followed (e.g. quality or safety) that are managed from the checklist module.

## 8. Financial and Inventory / Warehouse System Integration

**Luceos Smart** is integrated with multiple types of ERP/CRM/HR solutions. As the architecture of **Luceos Smart** is open, it is possible to integrate with almost any other system.

The scope of integration may cover:



The exchange of data between **Luceos Smart** and other systems is based on a sophisticated framework that supports multiple protocols and technologies, individually configured and deployed for specific client systems.

Part catalogues, once imported to **Luceos Smart**, are immediately available to technicians in the mobile app. **Luceos Smart** enables adding elements (e.g. parts, materials or services) to an order before it is sent to the technician and during execution of the order. It is also possible to assign a maintained device to a used/replaced/exchanged part – such history is then available to any technician directly from the mobile application.

Executed orders may be then settled using **Luceos Smart**. The settlement process consists of creating warehouse documents, invoicing/receipting and payment (including an option for mobile/online payment available directly from the mobile application).

The work performed by a technician when executing an order may be included in the invoice and may appear as an element of the service, billed in one of the available modes: fixed rate, hourly rate, distance-based rate (related to travelling to/from a service location).

## 9. Call Center Integration

**Luceos Smart** enables integration with Call-Center systems. The list of pre-integrated solutions is available on request.

The basic scope of integration includes:

- integration of systems in relation to call management and call queues,
- registering calls from clients and automatically creating service requests,
- immediate access to call history for all clients in the system with the ability to search according to various criteria,
- replaying the recorded calls,
- automatically identifying calling numbers and using for presentation of caller data (so-called 360 degree view),
- easy access to call records,
- easy triggering of out-bound calls and sending of text messages.

## 10. Call and SMS Automation

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**Luceos Smart** is integrated with Twilio services.

Twilio services that can be integrated with **Luceos Smart** cover:

- Automated and programmable SMSes
  - Send and receive text messages to any place in the world
  - Automatically respond to received text messages
- Programmable Voice services
  - Make communication to technicians and customers reliable with automatic, intelligent voice messages
  - Respond to voice interactions with intelligent IVR schemas tightly integrated with information in Luceos Smart

For more details on Twilio features visit: <https://www.twilio.com/>

## 11. Documentation and Photos

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This module has the function of collecting the documentation of every device, request and all client-related documentation – served as elements for building and managing historical service data. Access to such data is key for the execution of current and planning of future activities. Access to device management history and the detailed historical documentation (including photos or videos) of completed orders makes it possible to avoid surprises when planning and executing new service orders. It helps to minimize the time needed to determine the best possible reaction to failures and to prepare for repairs.

**Luceos Smart** allows collecting and accessing documentation from both the mobile app and the portal. The system enables electronic attachments, taking and adding photos, and adding comments and warnings.

The key elements of this functionality are:

- Management of documentation related to devices, clients, and orders from the Web Portals and mobile apps,
- Support of different formats of files and photos,
- Management of comments and warnings,



- Synchronization of data between mobile devices and the web portal (documents can also be collected and accessed on the mobile application in off-line mode; synchronization is performed as soon as the data link is available).

For extra capacity, **Luceos Smart** is integrated with:

- Google Drive
- Microsoft Azure Storage
- Microsoft SharePoint

## 12. Email and SMS Notifications

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**Luceos Smart** provides a wide range of highly configurable functions related to the creation of notifications for technicians, managers and clients. These functions make it possible to create dedicated message templates in different languages and for different communication channels, such as email, SMS or fax. Information provided in such messages can be accompanied by attachments: PDFs with order reports and checklists, Excel documents and others.

Example scenarios include:

- Sending an order to a technician.
- Approaching order execution date (message for the technician and/or client).
- Delay in acceptance of the order for a technician (message for the technician and/or service manager).
- Delays in the start of execution of an order (message for service manager).
- Preparation of the Electronic Service Report.
- Execution of an order (message for the client and/or service manager).
- Approaching end of warranty for a given device.
- Approaching next service order for a device (e.g. 30 days from previous maintenance).
- Questionnaire after a service notification has been registered or after a Service Report has been completed.

Depending on the SMS service provider, it is possible to automatically collect and analyze SMS responses received after SMS questionnaires have been sent. An example SMS questionnaire scenario implemented by Luceos Smart may look like this:

- After service order is completed Luceos Smart sends a text message to a customer: "Please respond to this message and rate our service by providing a number between 1 and 5. 1 for poor service and 5 for excellent service."
- In cases where a response is received, Luceos Smart can automatically associate the message with a specific service order and a technician and then aggregate technician's rates into weekly or monthly rating.

## 13. Key Performance Indicators (KPIs)

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**Luceos Smart** enables automatic measurement of the KPIs of service teams. The data are calculated both for whole teams and individual users. The measurement is performed in real-time and results are available in the **Luceos Smart** web portal in form of a control panel and also as periodic reports generated in Excel. The set of 26 basic indicators may be adjusted and extended according to client needs.

The most popular predefined indicators include:

- average work time during a week,
- proportion of time spent travelling,
- proportion of time spent on paid activities,
- efficiency - average number of visits by a technician per day,
- timeliness - number of delays for commencing and ending orders.

**Luceos Smart** also enables defining of corporate and individual goals for all the indicators.

## 14. Google Drive Integration

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**Luceos Smart** enables close integration with Google Drive. It connects the client company account in Google Drive with **Luceos Smart** in relation to a given set of folders in Google Drive. Additionally, the record of every client and every device in **Luceos Smart** may be connected to individual folders on Google Drive. Creation of such a connection enables access to files in Google Drive from the **Luceos Smart** portal and the mobile app.

The data stored in the Google Drive folders are not maintained on the Luceos Smart servers nor are available to persons outside the client organization. This provides confidentiality of internal documentation, e.g. confidential instructions related to management of devices. Integration with Google Drive also enables sharing of documentation outside the service teams.

## 15. Service Regions

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**Luceos Smart** makes it easy to organize service staff into teams, groups or geographical regions.

This module is useful in the following situations:

- Managing geographically dispersed service departments with local or global coordination of the teams,
- Division of a country into regions managed by dedicated service teams,
- Division of the service teams into different groups on the basis of client types, device types or other conditions.

The function makes it possible to assign individual employees, devices, clients, service requests and service orders to one of the teams into which the service organization is divided. The **Luceos Smart** portal, by default, limits the scope of data presented (e.g. in the calendar, search results, control panel and other places) to the team of the user. Users with appropriate

privileges may, in a simple and intuitive way, change the perspective of presented data for other organizational units or display all data.

## 16. Mobile Employee Routes and Positions

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**Luceos Smart** offers a set of functions aimed at optimizing order assignments and technician routing based on client-specific criteria. The system is able to increase efficiency of the teams by automatically resolving the so-called Travelling Salesman problem taking into account the whole team and all their orders in a given period of time.

Additionally, **Luceos Smart** provides integration with the most popular systems used to manage vehicle fleets. The integration enables collection and processing of data on the current and historical position of the technician vehicles.

The list of fleet systems that are pre-integrated with **Luceos Smart** is available on request.

The data collected in **Luceos Smart** includes:

- Technician data (ID according to registration number of the vehicle, name, email address or a different field assigned to the technician and vehicle),
- Geographical position,
- Distance travelled,
- Measurement time.

The system makes it possible to limit the scope of data collected to working hours, which can be adjusted for every technician. On request, using the Absence Module, the system is also able to apply limits related to the absence of a given employee.

**Luceos Smart** also provides a module devoted to tracking the position of a technician using the mobile app. This makes it possible to read and save the position of a technician using GPS, GSM or Wi-Fi readings collected by a smartphone or a tablet.

The collected data on location and routes can be presented in **Luceos Smart** in the form of:

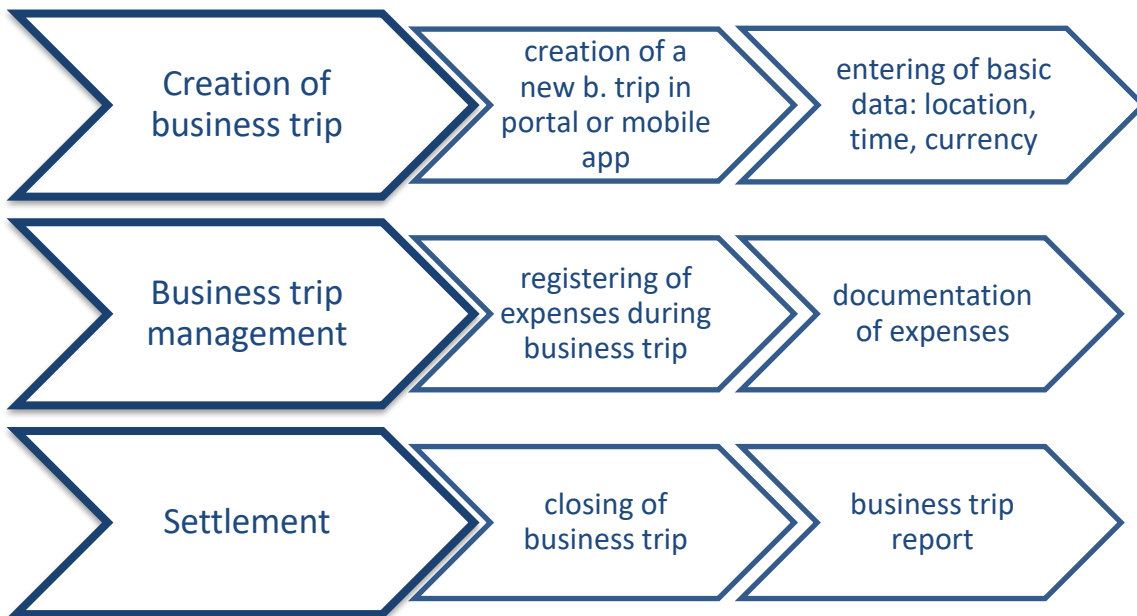
- Current location of the technician on the Google Maps - also in the context of planned orders and routes suggested by Google Maps,
- Historical data of the technician on the Google Maps.

Additional features:

- Based on current position automatically detect time of arrival and departure at/from service sites. This information can be used to trigger changes in the work time measurements as well as changes in order status and progress.
- Based on service order location and technician location history, automatically detect potential anomalies like:
  - Unregistered delays or early departures from service sites,
  - Unplanned stops,
  - Unplanned detours or sub-optimal routes,
  - Inconsistencies in reported work times and orders.

## 17. Expense Management

Managing business trips can be time-consuming and labor-intensive - employees must be detailed and document all expenses and then the accounting department must summarize and settle them. The expense management functionality in **Luceos Smart** offers effective support for these activities. It saves the time that employees usually spend on documenting and settling trip expenses and ensures full control over the process, limiting the risk of errors and mistakes.



**Creation of a new trip** - a new business trip can be created by a coordinator from the web portal or by a technician from the mobile application.

The system manages detailed parameters related to business trips, including:

- the employee who goes on the trip,
- key locations (starting location, destination and end location)
- period of the trip,
- the currency in which the trip is to be settled.

The system also determines the status of a given business trip (new, in progress, finished), which enables continuous management of business trips. The portal also shows the list of all registered business trips including their statuses.

**Expense management** - every trip, both in the portal and the mobile app, may be assigned any number of expenses. When an expense is registered with the system, its parameters are given:

- expense type,
- expense date,
- price and quantity of products/goods purchased,
- expense currency,
- payment type.

The registered expenses may be accompanied with photos of receipts, invoices or other accounting evidence, which enables full documentation of the business trip. After every expense has been saved, there is an automatic and immediate data synchronization between the central system and the mobile apps of the whole team. The trip appears on the list with the total value of expenses.

The accounting department verifies all expenses before they are settled - they can accept them or require additional changes/additions from the employee. This ensures control over expenses borne during business trips and limits the risk of errors or omissions.

**Settlement of expenses** - the trip is completed after the employee sends it to the coordinator. This is the moment when it is forwarded for financial settlement.

After trips are finished and settled, the coordinator may generate a report that will summarize all the key parameters and data of the business trip, including its duration and detailed expense list.

The system also makes it possible to create summary reports concerning trips that serve as an important source of information on the costs borne by the company - both for the accounting department as well as for the senior management and the board.

## 18. Service Checklists


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**Luceos Smart** allows any number of checklists to be defined that can be made available in the mobile app and completed by the technician when a given order is executed. A completed checklist can be recorded in the system as a document supplementing the Electronic Service Report. Such a document may be left for internal use or be sent to the client as an email attachment in order to, for example, confirm execution of quality control procedures or safety inspection of a device.

HAKO POLSKA Sp. z o.o.
2019-07-30 15:11:48



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### Konservacja i kontrola bezpieczeństwa urządzenia Hakomatic 1800 LPG

**Maszyna:**  
Hakomatic 1800 LPG

**Numer seryjny:**  
757420701551

**Lokalizacja:**  
LIDL-KATOWICE 1623 PL Katowice ul. Kolista

**Godziny eksploatacyjne:**  
1

**Partner HAKO:**  
partner

**Serwisant:**  
tima technik

Kontrola zgodnie z przepisem BGV D34		Lidl	
Operacja technologiczna	Par. techn.	o.k.	Uwagi
<b>Konservacja</b>			
Wymiana oleju silnikowego	3,5l	Nie wybrano	
Wymiana filtra oleju silnikowego	1szt.	Nie wybrano	
**Silnik wymiana czynnika chłodzącego	9,5l	Nie wybrano	
Wymiana wkładu filtra powietrza	1szt.	Nie wybrano	
**Wymiana elementu zabezpieczającego filtr powietrza	1szt.	Nie wybrano	
Sprawdzian silnika pod kątem nieszczelności		Nie wybrano	
**Wymiana świec zapłonowych	4szt.	Nie wybrano	
Sprawdzian układu hydraulicznego pod kątem nieszczelności		Nie wybrano	
**Wymiana oleju hydraulicznego	53l	Nie wybrano	
Wymiana filtra oleju hydraulicznego	1szt.	Nie wybrano	
Sprawdzian ruchu jałowego silnika	1100obr./min	Nie wybrano	
Sprawdzian nastawienia ECO silnika	2150obr./min	Nie wybrano	
Sprawdzian nastawienia silnika podczas obciążenia pełnego	2400obr./min	Nie wybrano	
Regulator/parownik (LPG) spuszczenie skondensowanych olei	patrz podręcznik silnika	Nie wybrano	
Sprawdzian momentu dokręcającego śrub mocujących koła	135Nm	Nie wybrano	
Sprawdzian funkcji hydraulicznej pompy jezdnej	osiąganie 12km/h	Nie wybrano	
	przelazanie zaworu ograniczającego ciśnienie pcv przy 300bar	Nie wybrano	
Sprawdzian funkcji hydraulicznej pompy roboczej 1	czy szczotka okrągła zmiatająca osiąga 4200obr./min	Nie wybrano	
Sprawdzian funkcji hydraulicznej pompy roboczej 2	czy szczotka do szorowania osiąga 2000obr./min	Nie wybrano	
Sprawdzian funkcji hydraulicznej silników	czy dmuchawa kurzu osiąga 3800obr./min	Nie wybrano	
	czy szczotka boczna osiąga 1100obr./min	Nie wybrano	
	czy turbina zasysająca osiąga 9300obr./min	Nie wybrano	
Sprawdzian funkcji hydraulicznej zaworów	zawór ograniczający ciśnienie pcv przelazca blok sterowniczy 1 przy 155ba	Nie wybrano	

## 19. Mobile Inventory

The module which manages the mobile (vehicle) inventory of each technician is closely connected to the management module for the parts and services catalogue. The Mobile Inventory enables:

- Automatic registration of parts used and collected from the technician's inventory,
- Control over the number of parts used which secures against registering usage of more parts than the available number of parts,
- A remote view of the mobile inventory and modification of its content using MM documents or in correction mode,
- Automatic monitoring of mobile inventory and creation of pickup orders if the minimum stock level is reached.
- Automatic inventory data synchronization between the mobile app and the **Luceos Smart** portal.

## 20. Client Portal and Client Mobile App

**Luceos Smart** Service Management is accompanied by additional applications:

1. Client Portal – Web Portal for our Customers' Clients
2. Partner Portal – Web Portal for our Customers' Partners and Sub-contractors
3. Client Mobile App – Mobile Application for Android and iOS which helps our Customers' Clients to easily create service requests.

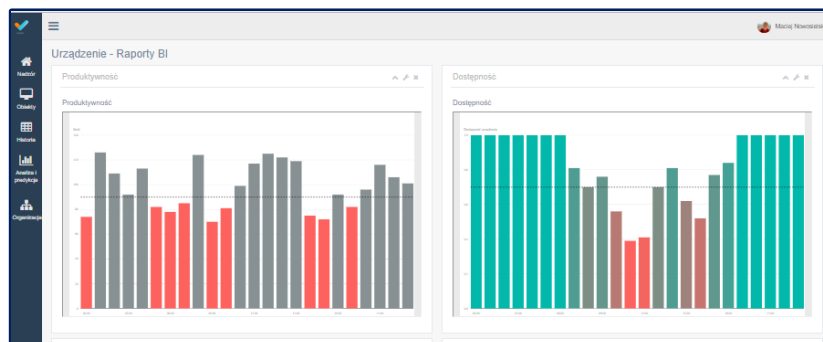
All applications can be tailored to a Customer's corporate brand rules including embedding logos and integration with the corporate web site.

## 21. Business Intelligence

**Luceos Smart** Service Management is integrated with Microsoft Power BI.

Using built-in data integration and flows with the flexibility of Microsoft Power BI our team can quickly develop all kind of interactive and real-time reports, charts and sophisticated data dashboards based on specific customer requirements.

With the Power BI mobile application all information can be accessed from any smartphone or tablet.



## 22. Service Contracts

In many cases services provided to clients are governed by multiple service contracts. With **Luceos Smart** you can easily manage multiple service contracts of different kinds. Each client and each piece of equipment can be associated with multiple contracts covering different periods and different services such as:

1. Service and Maintenance
2. Administration
3. Warranty
4. Sub-contracting services and maintenance

Each contract has various attributes and can be accompanied by additional documents, tasks and internal and external e-mail or SMS reminders.



## 23. Team Orders Schedule and Track Optimization

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The Team Orders Schedule and Track Optimization module enables optimization of service order schedules for the whole service team based on configurable business rules.

This module can automatically reschedule and reassign all service orders in given period amongst all or part of each service team.

The goal of the optimization engine is to reduce overall business costs which can be defined in various ways, for example:

- Reduce overall travel distance and time,
- Give priority to “emergency failures” and special customers,
- Optimizing different individual costs (higher for senior or external resources, lower for junior resources).
- Optimizing based on absence and current locations (if used with Mobile employees’ routes and positions module).
- Match required and available skills (if used with Skills Matrix module)

The **Luceos Smart** configuration Team is available to configure the optimization engine according to customer business requirements.

## 24. System and IoT Integration

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The effectiveness of business processes depends on the integration of multiple IT systems.

The philosophy driving the Luceos Intelligence team is the optimization of business processes of a company and increasing their efficiency by making data flow more automatic in the company.

**Luceos Smart** provides a wide range of integration options utilizing different technologies and protocols in on-line and off-line modes – all encapsulated in a proven, sophisticated framework. The integration architecture, scope and technology are adjusted to meet specific client needs.

The final solution is developed using the framework and can be configured to various architectures and hardware, taking into account:

- The location of each software and hardware element supporting cloud, on-premise and hybrid scenarios.
- Available communication features and functions. We are prepared for different scenarios utilizing independent sensors, edge computers, communication gateways and integration with the hardware using different industry protocols and technologies.
- Security, authorization and authentication requirements – to make sure that the communication is confidential, safe, reliable.

Recommended areas of integration:

- CRM System
  - Data on clients and their orders
  - Supporting the operations of the Infoline by providing the employees with data from Luceos Smart
  - Recommendations concerning clients and further works

- ERP System
  - Provision of data on completed orders
  - Support for invoicing and settlement: orders executed, time worked,
  - Report on Execution
  - Providing information on parts used
- Inventory system
  - Providing information on parts used
  - Manage multiple inventories and flows between them
- HRM System
  - Data on time worked and working hours
  - Data on vacation, sick leave and administrative time
  - Data on efficiency of employees
- Fleet Management Systems
  - Real-time location data
  - Discrepancy detection based on service data and car GPS data
- Equipment / Telematics
  - Secure real-time collection of data directly from remote equipment, via MIS systems or other data hubs

## 25. Mobile Payments

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**Luceos Smart** offers integration with independent payment providers like PayU or DotPay. Our integration framework allows fast and secure integration with any provider or system which then can be utilized in the following scenarios:

- Immediate and automatic payment in the field when completing a service order,
- Automatic recurring invoicing and charging of a subcontractor or a service partner based on a service dispatch fee,
- Collect advance payments and pre-payments for new service orders or materials with financial settlement at order completion.

Additional features:

- Manage cash and pre-payment balances for long service orders or service order chains,
- Manage available payment channels and options based on customer profile and history (black and white lists, customer rating and credibility),
- Automatic generation and delivery of invoices and receipts with payment tracking at service order completion.

## 26. Tasks

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Tasks in **Luceos Smart** help manage smaller pieces of work. A task is defined by:

- A responsible user or group of users
- Scope and documentation
- Schedule (start and end dates)
- Status

- Comments and notes.

Tasks can be associated with:

- Orders
- Notifications
- Clients
- Projects

and can be managed from **Luceos Smart** Portal, the Client Portal or the Partner Portal.

The Task module is integrated with the Workflow and SMS/E-mail Notification modules for:

- Automatic generation of e-mail or SMS notifications when specific changes to a task occur,
- Easy access or modification of a task directly from a link in e-mail or SMS,
- Fully configurable flow of a task between users or groups of users according to a selected workflow.

## 27. Projects

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The Projects module in **Luceos Smart** allows easy and efficient organization of more complex work for the whole team. This module is integrated with all other modules and applications (web portals and mobile apps).

A project in **Luceos Smart** can group various types of objects under a single “umbrella”:

- One or more clients
- Orders
- Notifications
- Tasks
- Documents
- Equipment
- Users
- Work times

The key elements of each project are the **budget** and the **schedule**. Default configuration for a project provides a schedule which can be defined by the following elements:

- Planned and final start and end dates of the project.
- Planned and final dates for each specific order, notification or task within this project.

The project budget is managed by collecting planned and real costs based on the following information:

- Planned project budget and profit,
- Offers and orders for customers, partners or sub-contractors accompanied by accepted scope and commercial conditions,
- User/modified/changed parts and materials as recorded in the project service orders,
- Work times and travels associated with a project,
- Other external services with associated costs (predefined or ad-hoc),

- Commercial conditions and rates as defined in project attributes or in one or more contracts.

**Luceos Smart** provides number of predefined dashboards and reports specific for the project module.

## 28. Data Safety

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Safety and confidentiality of data and the reliability of the **Luceos Smart Service Management** system is guaranteed by a number of elements, which include:

- System of differentiated user roles in **Luceos Smart**.
- Internal procedures which determine access to data are based on a safety policy and ensure proper level of control and minimize the possibility of access to client data by the team members of **Luceos Smart**.
- World-class data center and Cloud Computing software.
- Multi-level access security and system stability based on high redundancy of safety backups, Internet connections and power sources.
- Virtualization of hardware assets that safeguards against failure of the server or the drives and allows for full scalability of the solution.
- Ability to restore the system up to any moment in the last 14 days.



**Luceos Intelligence sp. z o.o.**

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