Mobile maintenance- and service processes with oxando Asset Management
Wir machen einfach smarte Lösungen!
About oxando

- Oxando is a software vendor and consulting company at Mannheim.
- Oxando was formed in 2007 by former consultants of SAP Consulting
  - Thomas Holtkotte
    - Solution Architect Mobile Business with more than 14 years of experience
  - Andreas Schmidt
    - Solution Architect Service Management with more than 16 years of experience
  - Tobias Zug
    - Solution Architect IT Service Management with more than 14 years of experience
- In 2013 the management team has been extended with another former consultant of SAP Consulting
  - Gerd Hartmann
    - Solution Architect Maintenance with more than 16 years of experience
- In the business year 2013 it made a turnover of 2 million euros
- Today, 20 employees work for the company
About oxando

- We support our customer in the implementation of all requirements of SAP-software focused on maintenance, service management, mobile business and IT service management.

- Our service portfolio ranges from conception up to realization, going live and follow-up assistance in different oxando- and SAP solutions.

- For our customers, we realize a – worldwide – outstanding organizational concepts and integrated software solutions.

- With more than 100 implemented maintenance- and service projects we optimize existing processes also the SAP-software by our customers.

- We offer innovative technologies and solutions.

- We provide more than SAP standard for the optimal solution for the customer.

- We have industry know-how in energy production and – supply, public utility companies, machinery and plant engineering, chemistry, facility management and IT services.
Our service portfolio – maintenance & service

- Conception, realization, going live and follow-up assistance of SAP PM/EAM- (Plant Maintenance, Enterprise Asset Management) and SAP CS- (Customer Service)
  - Introductory projects in
    - Plant maintenance
    - Technical Facility Management
    - Vehicle administration
    - Tool administration
    - Customer service
  - Installation and implementation of SAP MRS (Multiresource Scheduling) for scheduling solution
  - Execution of optimization workshops to analyze weakness points of software usage and by maintenance-/service processes
  - Implementing of custom and reusable SAP-Addons to optimize SAP standard processes, like
    - Web Dynpro-based notification creation for occasional users
    - Powerful function calls for the optimization of workshop-repairs processing
Our service portfolio – Mobile Business

- oxando Asset Management
  - Standard solution for mobile maintenance and service processes with SAP ERP
    - Provision of mobile checklists
    - Provision of mobile order reports
    - Integration of RFID and Barcode (for example for object identification)
    - Collection and exchange of documents or images (Up- und Download)

- oxando Mobile Stocktaking
  - Standard solution for mobile stocktaking
    - Provision of SAP-physical inventory on mobile devices
    - Creation of mobile counting results
    - Integration of barcode
    - Suitability of central, stationary storage also for mobile technicians stocks

- oxando Mobile Delivery

- oxando Inventory Management
  - Standard solution for mobile processes of stock management
    - Entering of incoming and outgoing goods (incl. account assignment)
    - Stock check of materials on plant- and storage level

- oxando Mobile Workflow
  - Standard solution for mobile permission (purchase permissions, leave requests, invoices, …)
Wir machen einfach smarte Lösungen!

Wir machen einfach smarte Lösungen!
Replacing SAP xMAM / SAP Mobile Infrastructure

- 500 mobile technicians

- 2 types of devices (Windows and Windows Mobile)

- Mobile maintenance for the facility management of the airport
  - Notification and order management
  - Inspection checklists
  - Mobile master data editing
  - Documents
  - RFID (for technical objects and staff identification)

- Additional solutions also on oxando mobile connector
  - Mobile inventory
  - Mobile transport management
  - Mobile emergency management (SAP CRM tickets)

By choosing of oxando solution an additional three tier system landscape could be shut down. Compared with the previous solution, the available functionality was significantly increased.
Going live with SAP CS and oxando Asset Management on the 1st of June, 2013

18 mobile Users (service technicians and coordinators)

Mobile processes: start-up, repair and maintenance
- Recording working times and travelling times as well as material used
- Creation of order reports incl. customer signatures
- Creation of documents (images) to service order
- Trigger of purchase permissions/material supplies
- Stock check for mobile storage location (KD-vehicle)
- Schedule planning with order calendar
- Inventory
Franke Washroom Systems

- Implementation of SAP CS incl. mobile solution
- approx. 25 mobile Users
- Mobile notification – and order management
- Order reports, mobile disposition

Deutsche Amphibolin-Werke / Caparol

- Implementation of mobile service
- approx. 15 mobile Users
- Mobile notification- and order management
- Mobile order report with signature capture
- Mobile partial orders
<table>
<thead>
<tr>
<th>No.</th>
<th>Customer</th>
<th>Solution</th>
<th>Solution scenarios</th>
<th>Project start</th>
<th>Go-Live</th>
<th>Project duration (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fraport AG, Frankfurt</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing, Mobile inventory, Mobile storage management, Mobile Delivery</td>
<td>01.11.2010</td>
<td>01.04.2011</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>WVER - Wasserverband Eifel Rur, Düren</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing, Mobile inventory, Mobiles storage management</td>
<td>10.06.2011</td>
<td>13.08.2011</td>
<td>2.5</td>
</tr>
<tr>
<td>3.</td>
<td>Deutsche Amphibolinwerke, Ober-Ramstadt</td>
<td>oxando Mobile Connector</td>
<td>Mobile service processing</td>
<td>15.06.2011</td>
<td>16.01.2012</td>
<td>7.2</td>
</tr>
<tr>
<td>4.</td>
<td>Sirona, Bensheim</td>
<td>oxando Mobile Connector</td>
<td>Mobile service processing</td>
<td>01.03.2012</td>
<td>31.07.2012</td>
<td>5.1</td>
</tr>
<tr>
<td>7.</td>
<td>Franke Aquarotter, Ludwigsfelde</td>
<td>oxando Mobile Connector</td>
<td>Mobile service processing</td>
<td>01.12.2012</td>
<td>01.06.2013</td>
<td>7</td>
</tr>
<tr>
<td>8.</td>
<td>Bayer Crop Science, Leverkusen</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>25.03.2013</td>
<td>01.05.2014</td>
<td>1.5</td>
</tr>
<tr>
<td>No.</td>
<td>Customer</td>
<td>Solution</td>
<td>Solution scenarios</td>
<td>Project start</td>
<td>Go-Live</td>
<td>Project duration (months)</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------------</td>
<td>---------------</td>
<td>--------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>9.</td>
<td>EWB, Bruchsal</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.12.2013</td>
<td>01.07.2014</td>
<td>8</td>
</tr>
<tr>
<td>11.</td>
<td>TransnetBW GmbH, Stuttgart</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.01.2014</td>
<td>01.07.2014</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>Sasol Germany GmbH, Marl</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.02.2014</td>
<td>01.08.2014</td>
<td>6</td>
</tr>
<tr>
<td>13.</td>
<td>hanseWasser Bremen GmbH, Bremen</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.03.2014</td>
<td>01.10.2014</td>
<td>7</td>
</tr>
<tr>
<td>14.</td>
<td>SKE Facility Management GmbH, Langen</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.06.2014</td>
<td>01.08.2014</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>Global operierender Chemiekonzern, Burghausen</td>
<td>oxando Mobile Connector</td>
<td>Mobile maintenance processing</td>
<td>01.06.2013</td>
<td>01.03.2014</td>
<td>9</td>
</tr>
</tbody>
</table>
Our reference customers

- Richard Wolf
- Kion Group
- Maquet Getinge Group
- Fraport
- Transnet BW
- EvoBus
- Heraeus
- MI
- Goodyear
- AVG Köln
- BR
- Franke
- Fresenius Netcare
- Caparol
- Union Investment
- Sasol
- EWB
- SAP
- Festo
- Vallourec
- Sirona
- BAYER
- Actemium
- SKE Group
- HanseWasser

oxando ... macht mobil einfach
Wir machen einfach smarte Lösungen!
Why adopt a complicated approach when you can adopt a simple one?

- Our mobile solutions using the specially developed oxando Mobile Connector
- With oxando Mobile Connector you may connect directly your mobile device with SAP-system – without additional Middleware-system
The mobile solution from oxando minimizes your infrastructure, lowers the complexity and your IT costs for the mobile processes.
You can use the oxando mobile connector to run different mobile applications.

- oxando mobile client for PC / Notebook / TabletPC / PDA / Smartphone
- oxando mobile connector is an Add-On for SAP without any modifications of SAP
  - No middleware server / cloud necessary
- Usage of standard interfaces / BAPIs to post data coming from the mobile device
- Integrated software distribution management
- Integrated monitoring directly in the SAP system
- Optional: Usage of SMP (SAP Mobile Platform)
Architecture of oxando mobile connector(II)

oxando Mobile Connector

- Synchronization
- Caching
- Delta Logic
- Error handling
- Administration
- Software distribution
- Indexing
- Posting

BTE interface

Event linkage to business workflow

„GetDetail“ Function module / BAPIs

BAPI_ALM_ORDER_MAINTAIN

BAPI_ALM_CONF_CREATE

BAPI_GOODSMVT_CREATE

...
oxando-Customizing

- Definition of user groups: „Scenario“
- Allocation and activation of business objects to scenario
- Function control of scenario level: which groups can use which processes and functions
- Posting control of scenario- and object-level: Which business objects will be post in which scenario (automatically, manually, via batch)

Adaption of layout via developing tools

- Adaption on mobile applications (Windows, Android, iOS, Windows Mobile)
Flexibility and multi platform support

- Supporting multiple mobile devices
- Flexible design of UIs
- Realization of different processes based on one single infrastructure

You achieve
- Easy to use and fast to process interfaces
- The best device for your specific need
- A high acceptance by your mobile technicians

It’s your decision which mobile device is needed for which process
All processes are using one single framework.
Uniform design on all platforms

oxando... macht mobil einfach
Wir machen einfach smarte Lösungen!

Wir machen einfach smarte Lösungen einfach!

<table>
<thead>
<tr>
<th></th>
<th>Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>About oxando</td>
</tr>
<tr>
<td>2</td>
<td>References</td>
</tr>
<tr>
<td>3</td>
<td>Architecture and technology</td>
</tr>
<tr>
<td>4</td>
<td>Questions within the service and maintenance area</td>
</tr>
<tr>
<td>5</td>
<td>Solution overview</td>
</tr>
<tr>
<td>6</td>
<td>Implementation aspects and economic assessment</td>
</tr>
<tr>
<td>7</td>
<td>Summary</td>
</tr>
</tbody>
</table>
Common questions for mobile solutions within the service area

- How can our technicians work more efficiently without paper based forms or complex SAP screens…?
- We need an efficient way to record the conditions to determine our critical assets!
- How can we document proof required maintenance in a simple way?
- I need standardized instructions for the execution of maintenance…!
- How can we increase our service?
- How can we avoid unnecessary travel times for our staff?
- Our technicians have to get all tasks quickly without delays out of SAP …!
- Mobile solutions for SAP are expensive and complex – that will be a huge project…!
The solution - oxando Asset Management (I)

Mobile checklists

- Central planning of inspections and tasks in SAP
- The simplest way to record inspection results (quantitative and qualitative characteristics)
- Full reporting and flexible configuration of follow up actions in SAP

You achieve

✓ Standardized instructions for maintenance work
✓ Efficient recording of asset conditions
✓ Reduction of processing delays

Set standards for your maintenance work and for the processing of inspections by using oxando‘s fully integrated checklist solution.
Mobile order report with signature creation

- Mobile signature creation
- Mobile generation of PDF order reports
- Automated storage and integration of PDF documents in SAP ERP to SAP objects (for example order)
- Optional sending of the order report to the customer via email

You achieve

✔ Simple and automated documentation of proof requiring maintenance work
✔ Improved service for your customer

By using the order reports the documentation will be done automated and centralized in your SAP System.
The customer gets all information in a transparent and structured way.
Optimizing the schedule planning and mobile process

The Solution—SAP MRS and oxando Asset Management

Central disposition

Mobile application

• Full integration of mobile solution in schedule planning (for example with SAP MRS)

Your advantage:
✓ Increasing reaction speed
✓ Reducing travel times

Through seamless integration of all systems in the process we increase the productivity and reaction speed within your organisation
The Solution - oxando Asset Management (IV)

Intuitive mobile user interfaces

- Simple, finger friendly user interfaces
- Your data from SAP ERP are online and offline available
- Mobile created data will be send directly to the backend system

You achieve
- Simple, effective and paperless mobile processing of technicians
- Reducing of training efforts
- Reducing complexity of SAP-processes
- The process speeding up

Simple user interfaces are key factors for technicians. The data are online and offline available to users.
Wir machen einfach smarte Lösungen!
Excursus: Traditional maintenance-/service processing

- High travelling time (Transfer)
- Multiple entry
- Delay in reporting data
- Information gaps
- Poor quality of data
Innovative maintenance-/service process – Mobile processing by oxando Asset Management

- Elimination / minimization paper based processes
- Mobile real time information
- Highest data quality
- Prevent data loss
- Real-time data confirmation
- Real-time further processing

- Saving of time
- Cost savings
- Increase in productivity

failure-related
predictable
scheduled

Order completion
Order settlement

Creating order
Mobile Displaying order data
order-processing
Mobile confirmation

Synchronization

SAP Backend

Predictable
Scheduled

Maintainance/service technicians

Process: Implementation

Order

Completion

Order

Settlement
One mobile solution covering it all

Synchronisation of data from SAP and mobile device

oxando Mobile Connector

SAP ERP Backend

Master data

Creation of order/notification

Scheduling (e.g. SAP MRS)

Posting of confirmations and data changes

oxando... macht mobil einfach
oxando Asset Management – Master data

- Functional locations & equipments
  - With classification data, long texts, measurement points, historic data, documents
  - Installation / dismantling / creation
  - Editing of master- and classification data

- Materials and spare parts
  - Including BOMs and stock overview

- Checklists based on inspections lots

- Activity types based on the work center
  - For confirmation processes

- Business partner
  - e.g. customers, contact persons
oxando Asset Management – Mobile notification management

- Transfer of notifications from SAP PM/CS
  - Flexible customizing of notification assignments / selection

- Mobile notification list
  - Filter and sort features, Display of status information

- RFID identification of technical objects

- Mobile creation of new notifications, Break down process

- Editing of notifications
  - Damages, Causes, Activities, Tasks
  - Status management
oxando Asset Management – Mobile order management (I)

- Transfer of orders from SAP PM/CS
- Distribution criteria can be customized
- Mobile order list
- Filter and sorting features, displaying of status information
- Order calendar
- Mobile scheduling via drag & drop
- RFID identification of technical objects
Mobile recording of orders
- incl. multiple operations and components

Mobile changing of orders
- Adding of data, e.g. components
- Changing of data, e.g. dates

Mobile order confirmation
- Time confirmations
- CATS confirmations
- Goods movements
- surcharges, flat rates...
- status changes
oxando Asset Management – Mobile checklists (I)

- Transfer of checklist characteristic from SAP
  - Checklist content will be maintained through inspection plans, a standard SAP feature

- Mobile checklist
  - Including long text descriptions for all inspection steps
  - Easy editing through touch enabled interface
  - Recording of measurement documents within the checklist process
  - Recording of damages within the notification process

- Signature capturing or personal IDs (RFID) to record the approval of check list recording
oxando Asset Management – Mobile checklists (II)

- Creation of PDF document with the final inspection results
- Documentation of inspections
- Storage in SAP using DMS functionality
- Recording of results as inspection lots
- Structured and central storage inside SAP standard documents / transactions
- Linked to order / notification object
- Data can easily be reported and analyzed
oxando Asset Management – Mobile material confirmation

- Transfer of basic schedule and stocks from SAP PM/CS to mobile
- Collective confirmations (serialized) materials
- Filter and sorting functions to storage location and reserved stocks
- Creating new materials
oxando Asset Management – Mobile time confirmation

- Entering time confirmations and lump sum
- Collective confirmations
- Assignment of an activity type
  - Activity type are definable by Customizing
- Entering long text
- Adding an accounting motive
oxando Mobile Connector – Administration

- Monitor all data, users and conflicts with one transaction inside your SAP system
  - No external system, no middleware view necessary
- Easy administration feature to solve conflicts and maintain the data. No additional IT qualification required
Wir machen einfach smarte Lösungen!

Wir machen einfach smarte Lösungen einfach!

1. About oxando
2. References
3. Architecture and technology
4. Questions within the service and maintenance area
5. Solution overview
6. Implementation aspects and economic assessment
7. Summary
oxando lowers your cost for mobile processes

Installation
- 60% lower installation costs

Implementation
- Up to 50% lower implementation costs

Running costs
- Up to 50% lower running costs

Monitoring & Administration
- Max 50% of the original monitoring cost

- Minimal infrastructure and interfaces by avoiding additional middleware systems
- Simple installation (ABAP transport and predefined template customizing)
- Full coverage of nearly all your requirements
- Simple administration

You achieve
✓ Low implementation and training cost
✓ Short project timelines
✓ Low running costs
✓ Quick and easy administration

oxando lowers your costs for mobile processes and shortens project timelines. We enable mobile processes within days.
Benefits of mobile solutions by oxando

Performance of data transmission from SAP to mobile device

- Optimal performance through selection of relevant SAP data
- Delta-Sync based on changes of SAP objects
- Optimization through prepared data packages

You achieve
- Highest Sync-Performance
- Minimization of IT infrastructure

We achieve shortest data transfer times even with large data packages - without any additional system and with minimal costs!
Wir machen einfach smarte Lösungen!

Wir machen einfach smarte Lösungen einfach!
Your advantages on one glance

- Fast realization of your requirements
- Fully covered functionality
  - Best Practice from our more than 60 mobile / PM/CS projects since 2002
  - Covering all requirements of SAP PM / CS processes
- Minimal implementation and administration costs for mobile processes
  - Usage of existing infrastructure, no new systems required
  - Simple and transparent administration and monitoring of mobile processes
- Open infrastructure with maximum of flexibility
  - Providing different ERP and/or CRM processes
  - Supporting different mobile devices (PDA, Tablet PC, Laptop, Smartphone...)
- Highest synchronization performance
- Flexibility for custom specific processes
  - Interfaces can be adopted or changed for any custom specific need
oxando … makes mobile easier

- Easy in administration, because you are working directly in your accustomed working environment within SAP-systems
- Easy in installation, because you don’t need any additional components (middleware-systems, cloud-solutions) which it makes your infrastructure complex (and expensive)
- Easy in configuration, because the solution provides extensive customizing, multi-language and supports different user groups
- Easy in usage, because the solution has uniform design on all platforms
- Easy in implementation, because the solution is running in few hours on your system
Further applications – oxando Mobile Delivery

- **Mobile Delivery**
  - Transport and disposition of delivery
  - Overview of all deliveries on your mobile device
  - Confirmation and acknowledgment of the delivery incl. signature creation
  - Creation of a pdf-documents as delivery confirmation on your mobile device
  - Synchronization data to SAP-system
  - Integrated connection to SAP MM-incoming goods
  - Middleware is not required
Further applications—oxando Inventory Management

- Mobiles inventory management
  - Offline- or online available
  - Goods receipts for purchase orders
  - Good issues for orders/PSP-elements/cost center
  - Reclassifications
  - Querying stock and master data of materials
  - Directly transfer positing on SAP-stock
  - In different mobile devices available
  - Middleware is not required
Further applications– oxando Mobile Stocktaking

- Mobile stocktaking
  - Offline- or online available
  - You can enter material stocks
  - You can enter counting results
  - Allocation of inventory documents to relevant employees
  - Directly posting of counting results
  - In different mobile devices available
  - Middleware is not required

oxando ... macht mobil einfach
Further applications – oxando Mobile Workflow

- Mobile Workflow-processing
  - Offline- or online available
  - Displaying allocated workflow-elements
  - Usage for purchase permissions, leave requests, invoice approvals and much more
  - Displaying workflow-detail data
  - Implementation of follow-up actions on mobile device
  - Refusal/Approval
  - Directly posting of data
  - In different mobile devices available
  - Middleware is not required
Further applications – Mobile master data inventory/inclusion

- Mobile master data inventory
  - Offline- or online available
  - Structural representation of equipments
  - Automated change of the new-found equipment
  - Automated creation and dismantle of new equipment incl. updating master data
  - Creation and dismantle of equipments by incoming goods incl. updating master data
  - In different mobile devices available
  - Middleware is not required
Kontakt

Gerd Hartmann
Geschäftsführer

oxando GmbH
Konrad-Zuse-Ring 12
68163 Mannheim
www.oxando.com

Tel.: +49 / 621 / 860 860 - 25
Fax: +49 / 621 / 860 860 - 29
Mobil: +49 / 151 / 14 23 58 28
Email: gerd.hartmann@oxando.com

oxando... macht mobil einfach