realworldsystems

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We aim to put
spatial information
in the hands of everyone
who needs it

Our Purpose

We are a global geo-spatial provider for the utility and telecommunications industry, transport companies and the public sector.

We offer consultancy, integration and training services, product development, complemented with an extensive product range and knowledge of your business processes.

We are specialized in integrated spatial solutions for companies involved in creating and maintaining complex distribution networks as well as integration of spatial information in your business process for design, planning build and maintenance.

Worldwide Presence

Netherlands
Romania
United Kingdom
Germany
Australia
South Africa
Indonesia
USA

Who We Are

Realworld Systems specializes in the implementation and maintenance of Geographic Information Systems (GIS) and the integration with Enterprise Resource Planning (ERP) and monitoring (SCADA) systems, logistics and operational support.

Realworld Systems provides network asset design and management solutions based on industry leading platforms. We advise, not only on policies and architectures of these systems, but we also design, develop and manage these systems too.

We do this with an active, personal and pragmatic approach. Whether it is about standard solutions or dedicated developments, we always ensure a smooth implementation with your existing IT systems. Because of our broad experience with all kinds of business processes, we realize quick results which are generally amazingly simple and cost effective.
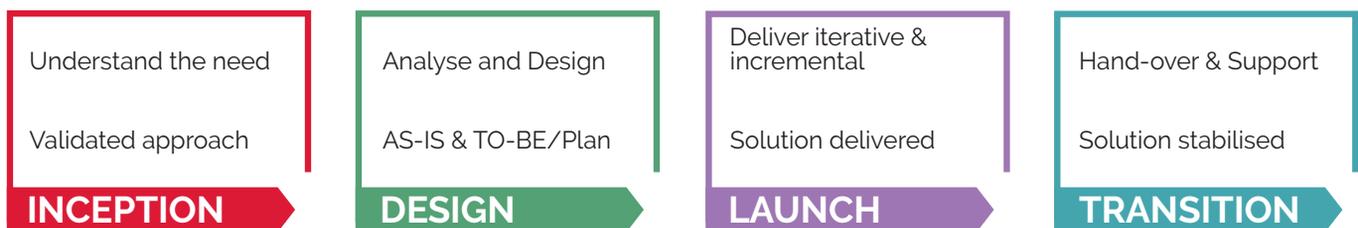
Investments in spatially enabled systems offer rapid payback by reducing costs and potentially increasing revenues. At its most basic the value proposition is:

- Improvement of information quality through spatial presentation and analysis;
- Insight in the location of your assets, customers and employees;
- Integration of the field force into your automated asset management procedures;
- Increased productivity per day per field per operator
- Provision of information electronically to service teams, customers and external partners;
- Automation of workflow by locating staff and requests
- Streamlining the process flow to focus on delivery to the customer
- Enhancement of access to operational and business information to support decision making.

Our Ambition is to provide our clients with a suite of solutions that supports them in their digital transformation journey.

- Network inventory management
- Process automation
- Process orchestration
- Asset management
- Document management
- Location analytics
- Legacy system integration

Delivery Methodology

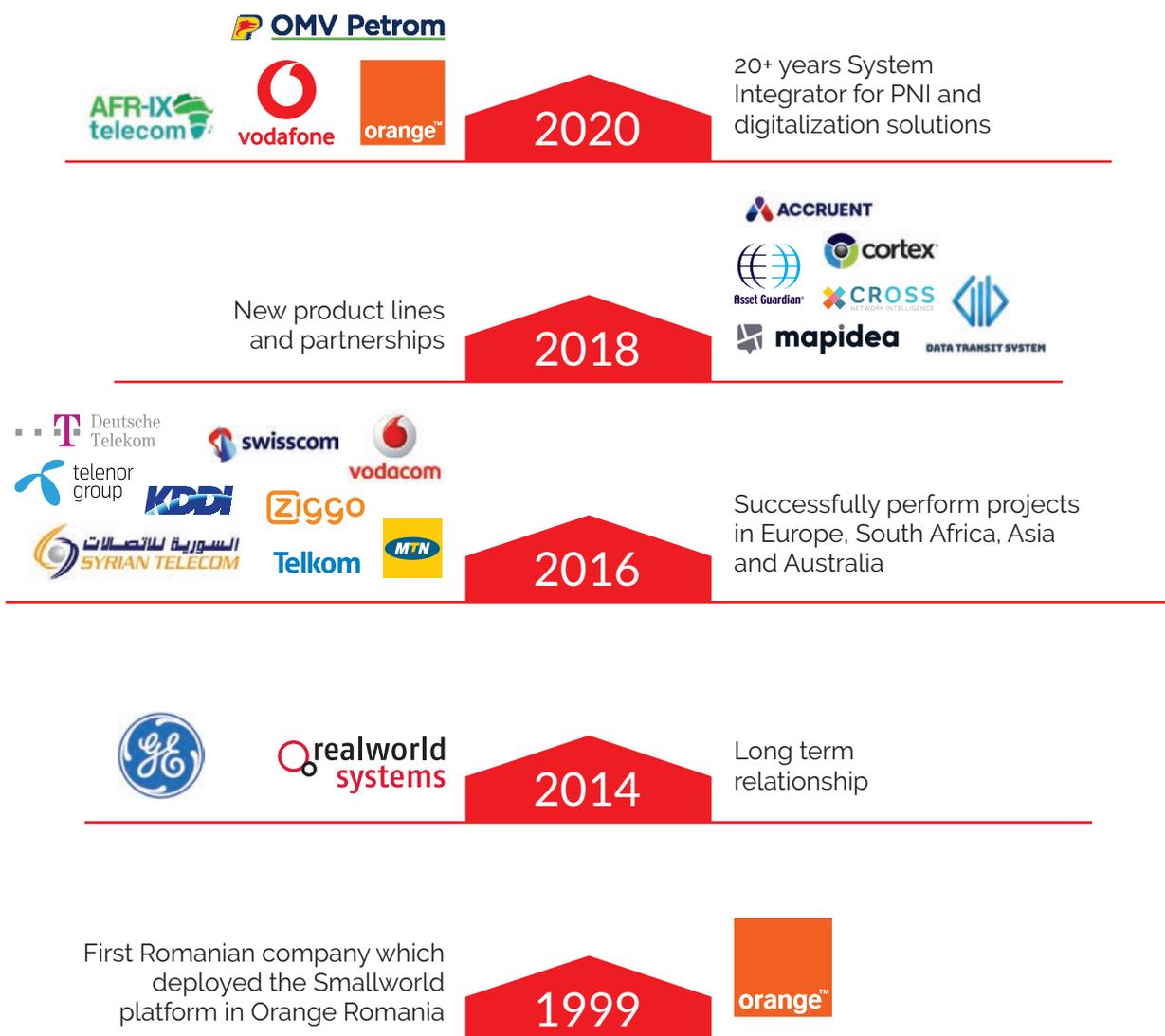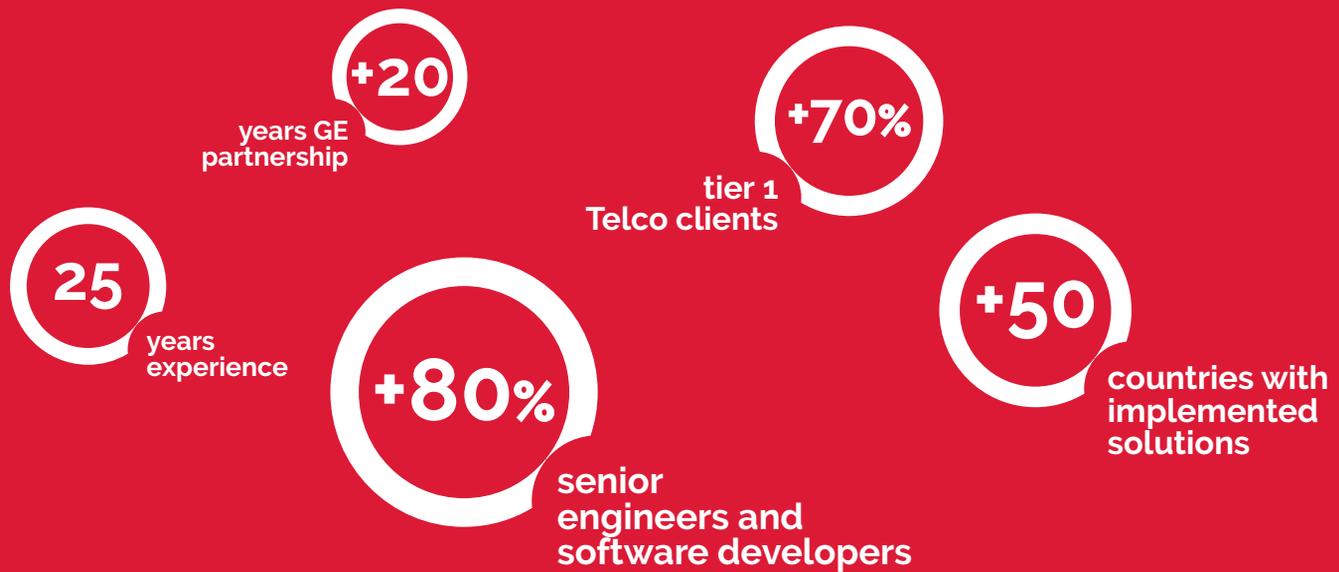| INCEPTION	DESIGN	LAUNCH	TRANSITION
Understand the need	Analyse and Design	Deliver iterative & incremental	Hand-over & Support
Validated approach	AS-IS & TO-BE/Plan	Solution delivered	Solution stabilised

Industries

Companies with complex network asset management requirements, such as those in telecommunications, water supply and drainage, electricity and gas transport and distribution, need adequate systems and tools to efficiently design and model complex network infrastructures while also supporting asset management lifecycle processes.

- Telecommunications
- Water Supply and Drainage
- Electric Utility
- Gas and Pipeline

Our Evolution

2020 — 20+ years System Integrator for PNI and digitalization solutions

OMV Petrom, AFR-IX telecom, vodafone, orange

2018 — New product lines and partnerships

ACCRUENT, Asset Guardian, cortex, CROSS NETWORK INTELLIGENCE, mapidea, DATA TRANSIT SYSTEM

2016 — Successfully perform projects in Europe, South Africa, Asia and Australia

Deutsche Telekom, telenor group, KDDI, swisscom, vodacom, Ziggo, Telkom, MTN, SYRIAN TELECOM

2014 — Long term relationship

GE, realworld systems

1999 — First Romanian company which deployed the Smallworld platform in Orange Romania

orange

Realworld in a glance

+20 years GE partnership

25 years experience

+70% tier 1 Telco clients

+50 countries with implemented solutions

+80% senior engineers and software developers

What We Do

- We do what we promise: **fast and efficient, innovative and realistic solutions!**

- We help our customers achieve their **operational excellence!**

- We accelerate the **digital transformation**

- We put spatial assets in the hands of a utility who needs it

- We are **specialist in Geographical Information Systems for Telecom and Utility Markets**

Data Transit System

Data Transit System helps you easily exploit multiple data sources, translate and aggregate data from different formats efficiently and securely, regardless of location or number of users accessing the data.

With DTS, enterprise data can now be consumed in new, innovative ways, helping companies meet their informational needs and increase productivity.

Why Data Transit System

65%
of data integration **or migration** efforts fail due to technical issues

Usability & Interoperability

- Single Point of Contact
- Quick access to or external sources
- Simplified source viewing, connector management and middleware use
- Dedicated intuitive graphical interface
- Data source routine invocation

High Performance

- Optimized distribution of resources
- Easy integration of data into your own workflows and applications
- Containerized architecture of the platform
- Load balancing and maximized of resources
- Ensures redundancy scalability

High -end Security

- Centralized management of access to sources
- Encryption of communications
- Data is not copied or stored
- Data anonymization & GPDR compliance

Cost efficiency

- No dedicated development for accessing hard-to-access databases
- No repetitive tasks specific to testing processes and data in use
- Reusing integrations from one project to the next
- Streamlined management of data sources and connectors

Main Features

- Automatic inventory of data sources
- Invocation of functions from data sources
- Automatic identification of changes in source structure
- Custom clients or connectors, with tutorials included
- Aggregation and complex relationship between multiple data sources
- Results of the extraction and the **relationing** of the records from the component sources are delivered as ordinary data streams
- Encryption and authentication with access certificates

DTS helps your company acces data from multiple sources(including legacy and hard to reach databases), integrate it into your applications and workflows, and control acces. DTS is also able to customize the data streams provided based on information from client or front-end application.

Find out more about DTS datatransitsystem.com

Mirror

Mirror is a tool which creates synthetic data to ensure that production like data is used for testing and debugging all the while not compromising actual production data.

Data Capture
Data Preparation
Data Insert
Data Availability
Data Security
Mirror
Working Modes
Mass Data Population
Scalability

Why Mirror

- Provides high quality test data which is required by Agile and DevOps teams for software development and testing
- Specifically designed for Smallworld easily handles the details of its datamodel
- Creates representative subsets from real data with all complexity of real world
- Data is extracted form a database based on rules to ensure that it is logically and physically complete
- By exporting it in an XML file can be shared and reused in other databases
- Data masking and synthetic data generation. For captured data, a set of derived values can be defined to ensure that data is correct from business point of view and does not break any security constraints
- Helps development process allowing users and testers to share data situations with developers
- By using tagged records the data can be easily identified after insertion
- Provides easy integration with Robot Framework test software

Main features

- Data can be inserted as many times as needed and using derived values, we can ensure that data does not overlap and has unique values based on rules
- For security reasons Mirror can ensure that the exported data does not contains real values. The coordinates are transformed and stored as relative values
- Using production like data during development and testing helps your team to deliver faster and better products.
- Known corrupt data situation can be also mirrored allowing you to test the robustness of your code

MIRROR helps your development teams be more efficient by providing synthetic data derived from production.
Mirror can obfuscate sensitive data enabling you to share it outside your organisation.

Deja Vu

The Deja Vu application allows Smallworld users to easily acquire the context of an application and apply it on same or different session to be able to resume work from the same point in seconds.

Context of a Smallworld application comprises of content of application plugins and session's properties
- Map: world, center, extent, selection, trail
- Editor: edited object, fields values
- [DM] Project: current edited jobs
- [PNI] Connectivity GUI: root object
- Environment variables: products, versions...
- System variables: machine, user...

Why Deja Vu

Deja Vu is a productivity tool

- Many contexts of the application can be saved by a user in memory or save in the database so he can easily navigate from one to another
- By manually or automatically saving the application context at closing it allows the user to resume work in seconds instead of minutes from same point
- The users can share an application context with other users asking for advice and support

Deja Vu is a development tool

- Gives the reviewers and testers the possibility to share the context of the application with the developers.

Deja Vu is a support tool

- Deja Vu provides a more information regarding the state of an application when an error occurs than the user can manually provide.
- The support can navigate to same situation in seconds. Also, can compare and see what is different from original situation.

Deja Vu is a reporting tool

- By being highly modular the Deja Vu can assemble PDF reports from parts of the application.

Deja VU saves time

- For users, support teams, developers and testers making your team more efficient and performant

Main Features

- Saves the context of the application in database or xml files and replay it at any time
- Save the context in a dedicated dataset for later reuse
- Shares the context of the application with other users
- Save the context at closing and apply it back at start up
- Specialised GUI for support to compare the context with current status
- Dedicated error handlers to automatically capture the traceback, save the context in an xml file and create a full PDF report
- Highly modular so easily configurable for different Smallworld applications

A user normally restarts the application minimum twice a day in the morning and after lunch break. If it is able to resume work in 10 seconds instead of 2 minutes in 1 year 8 hours of work can be saved. For 1,000 users that means 1,000 FTE.
Additional time is saved by using it during documentation to navigate and gathering information for support team when reporting problems.

Diagnostics

Diagnostics can intrinsically tell the customer exactly what and where the problem is inside Smallworld - relevant to any customer desiring to monitor their GE Smallworld GIS. Diagnostics is a vertically-based monitoring tool - not to be confused with monitoring tools that look at systems horizontally. Horizontally-based monitoring tools can tell you that there is a problem with any IT system but cannot tell you what the exact problem is in that specific system.

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Monitor

- Monitor actual user behaviour
- Track your system in real-time

Analyse

- Identify bottlenecks and risks
- Receive intelligent recommendations

Improve

- Enhanced system performance
- Increased user satisfaction
- Improved User Engagement

Save

- Reduced Total Cost of Ownership
- Excellent Return on Investment

Customer Quotations

*"Diagnostics has shown that Quality Manager can be a laborious and time-consuming factor in the data registration process. By optimizing this process, we now see in Diagnostics that QM activity as well as the number of reported QM flags has been halved." - **Enexis Groep***

*"It has certainly been an enlightening endeavour to better understand the issues that have been causing us pain for so long." - **SECO***

*"Diagnostics facilitated a removal of 33% of the functionality of our bespoke gas application" - **Alliander***

*"98% time gain is seen by Admin users for daily monitoring activities using Diagnostics" - **TNB***

—————

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Find out more about Diagnostics on diagnosticsincontrol.com

Smallworld Design Gateway

SDG - Integrated FTTx and N+0 Planning, Design and Documentation.
This highly configurable solution enables user to set business and engineering rules, specify which equipment to use to build their network, and run QA checks automatically as part of the design workflow.

Why SDG

SDG leverages the strengths of both of the solutions: you can utilise the power of Comsof Fiber from the PNI GUI, taking advantage of the Design Management and Quality Management features.

Users can pass the Landbase, network and customer demand information required to support FTTx designs directly from PNI to the planning tool and use all of its design features in a well-known interface. Design data can be passed directly to the field engineering tool to support surveys. The validated final design can then be directly converted into PNI network designs. No need for duplicate data entry, automated quality checks and all work controlled using your standard design workflow.

What does it take to implement Smallworld Design Gateway?

SDG is a product solution. The software can be installed and configured to work with your network inventory and landbase data. Realworld will work with you to ensure that the configuration of the tool matches your engineering and business rules.

SDG has been designed to be extensible. If you have specific requirements linked to your network inventory build, these can be added through a set of hooks, to ensure that your solution is future proof.

Main Features

- Users can pass the Landbase, network and customer demand information required to support FTTx designs directly from PNI to Comsof Fiber and use all of its design features in a well-known interface

- Design data can be passed directly to the GE Mobile Enterprise solution to support field surveys

- The validated final design can then be directly converted into PNI network designs

- No need for duplicate data entry, automated quality checks and all work controlled using your standard design workflow

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Cortex

A Unified Intelligent Automation Platform capable to provide complex Business Process Automation, IT Automation, Service Orchestration and Task Management.

Cortex mission is to create a world where everyone can automate, and transform their operations through man machine collaboration.

Cortex has over three decades of 'know-how' and deep domain knowledge across IT and Shared Business Services, Telecommunications, Banking, Financial Services, and Insurance (BFSI). Shared Business Services, ITOPs and AIOPs, HR, Finance, and Logistics can all be evolved into autonomous processes and service

Why Cortex

Intelligent Automation allows you to realize the benefits of Intelligent Automation enabling automated zero-touch operations whilst retaining strategic control and management.

INCREASE
Accuracy
Quality
Velocity
Capacity
Scalability

DECREASE
Complexity
Cost of delivery
Effort required
Average Handling Time
Cycle Times

Benefits of intelligent automation:

- Visual, Intuitive & automatic analysis and decisions, as well as action
- Low Code / No Code, Simplified Complexity
- Single Platform with End-to-End Autonomous operations
- Limitless dynamic scalability – Scale to demand

How can cortex help?

- Efficient Delivery Methodology
- Easy-to-use Interface
- Work on the Cloud
- Pay for what you use
- Integrate and automate
- Replicate automation

Main Steps to Automate

- Understanding Automation – Terminology and Capabilities
- Defining your Vision of Digital Operations with Primary Focus on Business Process and Desired Outcomes
- Deliver solution in an iterative, incremental, and flexible manner
- Hand-over and facilitate adoption of the new automated process

For more information, don't hesitste to contact us at rweecortexteam@realworld-systems.com

Change management automation

Process Optimization of Scheduled Works

Situation

The client, the Change Management Team from Tier 1 Telco operator, is responsible for manual verification of scheduled works (SWs) on network transport equipment that include lists of impacted sites and corporate customers.

Tracking of planned work is done in a ticketing system and for each scheduled work, the impact is manually extracted from SmallWorld (NICM) and added as an attachment in the ticket by the technician's team.

After this takes place, the Change Management team checks the scheduled work's attachment in scope of processing.

According to the type of planned work, they further check protection and extract lists of NodeB and B2B clients from SmallWorld (NICM). With this as input, they extract impacted areas and client's SIMs in other systems, end result being to notify interested departments and corporate clients.

This process is required daily, for any planned work, and is liable to human error due to its manual handling. Time spent on each received planned work takes between 15 minutes to 2 hours and the Change Management team receive an average of 25 SWs per day.

This means a weekly average of about over 94 working hours or 12 working days.

The scope of the process is to maximize network availability and maintain the relationship with the existing enterprise customers. If the work impacts any service provided to the end customer, then the latter is notified in advance.

Challenges

Difficulty of the Change Management team's daily work comes with the fact that the each scheduled work received they have to analyze the possible impact and to deep-dive in SmallWorld (NICM) for each network element. The planned work is done on the PNI and the team performs all the required checks in SmallWorld (NICM) LNI.

Other challenges that they have to overcome:

- Undocumented end-to-end flow
- Manual triggered process
- Multitude of undocumented business rules
- Manually deleting unrequired information in an over 1,000 rows excel attachment
- The process is liable to human error due to manual handling

Solution

By considering SmallWorld (NICM) a single source regarding the operator's logical and physical network topology, the system was selected to extract the customer impact for each planned work. On top of that, Cortex Intelligent Automation orchestrated the end2end flow, and DTS (Data Transit System) facilitated the communication between the systems.

The key to the successful deployment of automating the Change Management's verification and notifications of scheduled works is the strategy and methodology. Firstly, defining the vision of what the automated operations will be, assessing the current processes, and determining how to achieve this.

Taking an agile approach, we enabled the assessment of current processes, systems, and required integrations which feed into the design of the automated digital operations. The automation flows were optimised to remove obsolete steps and perform the repetitive steps delivering machine speed automated operations.

SmallWorld, via DTS, and Cortex Intelligent Automation has been enhanced to achieve maximum availability and minimize network incidents due to planned works.

As input parameters we used routers, OLT/GPON, switches, client and equipment circuits in order to extract B2B and NodeB clients from SmallWorld (NICM).

High Level Communication Legend

Cortex → DTS: Cortex interacts with DTS through a REST API to identify specific customers and also to check for network redundancies in Smallworld NICM.

DTS

- **DTS - CORE:** DTS Core deployment that handles request dispatching, load balancing, endpoint orchestration, automated scaling and also offers UI tools to interact with the system.

- **DTS – SW:** Smallworld-native agent for the DTS platform, tasked with extracting data, invoking routines and collating metadata. Also known as the DTS Smallworld Connector.

- **DTS – WS:** DTS Client API Implementation that exposes DTS operations as REST API.
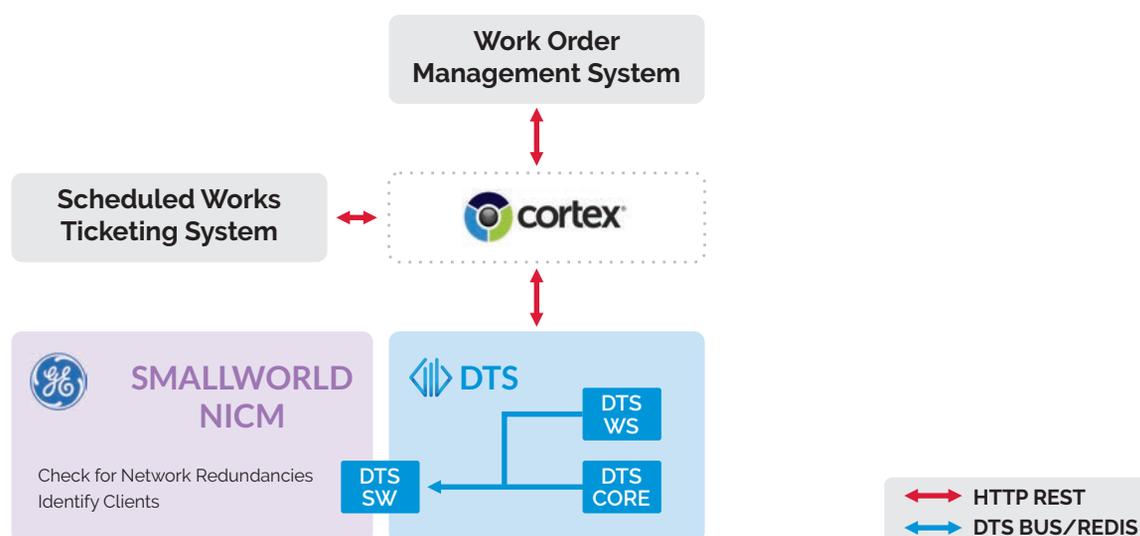
High Level System Architecture

Outcomes

The enhancement made on SmallWorld (NICM) solution, along with Cortex Intelligent Automation and DTS enables dynamic digital operations, releasing them from repetitive, manual and human error work to higher value operations.

The project, as a collaboration between RealWorld Systems and enablers, SmallWorld (NICM) as platform and Tier 1 Telco operator as end user, generated:

- Automation, Orchestration and Optimised E2E Flows
- 90%-time reduction for processing scheduled works
- Immediate notification of impacted stakeholders of scheduled works
- CM team available to focus on higher value job functions
- Automated a minimum of 12 working days/week of Level 1 manual processing

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Venusstraat 17
4105 JH Culemborg
The Netherlands
+31 (0)345 - 61 44 06
info@realworld-systems.com

realworld-systems.com