



salience
consulting

in partnership with



FALCON Tower Management System

Telecom towers regulatory and business services ●

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ONE-STOP SHOP TOWER MANAGEMENT

- 01** *WHAT ARE THE COMMON CHALLENGES?*
- 02** *WHAT IS FALCON TOWER MANAGEMENT SYSTEM (FTMS)?*
- 03** *WHY FALCON?*
- 04** *WHO IS IT FOR?*
- 05** *HOW IT WORKS?*
- 06** *HOW IS IT DEPLOYED?*
- 07** *WHAT ARE THE BENEFITS?*
- 08** *WHERE IS IT DEPLOYED?*
- 09** *WHAT ARE THE FUTURE DEVELOPMENTS?*
- 10** *WHY US?*

ONE-STOP SHOP

FALCON Tower Management System is a one-stop shop to manage your towers. It is a centralized asset management system that gives you complete overview and control of your towers.



01. WHAT ARE THE COMMON CHALLENGES?

COMMON CHALLENGES WITH TOWER MANAGEMENT



STANDARDS

- Lack of standards what can be built and where (regulation per zone). Example of common issue is large masts on private houses.
- Towers decrease the desirability of neighborhoods due to aesthetics and health concerns.
- There is a need for standards on camouflaged towers and other concealed solutions.



COMPLIANCE

- What is implemented is different to what was planned. We find overloading and other structural issues.
- Temporary towers are becoming permanent, and they are not designed for the long-term.
- Large share of mobile towers is not legal, or not fully legal.



DATABASE MANAGEMENT

- There is no single database of all towers and the status of these, including what is on them and all the associated documents. Files are scattered around multiple excels. A single database can help with enforcement, standardization and compliance.



APPROVALS AND PERMITTING

- The regulators do not provide approvals assistance and operators need to gain individual approvals from various bodies.



REDUNDANT COSTS

- Tower sharing is not high or not supported through regulation.
- Operators duplicate costs by deploying their separate towers and maintaining redundant sites.



REGULAR AUDITING

- There are no regular checks on the infrastructure. A good practice is up to 10% of random structures to be audited annually.

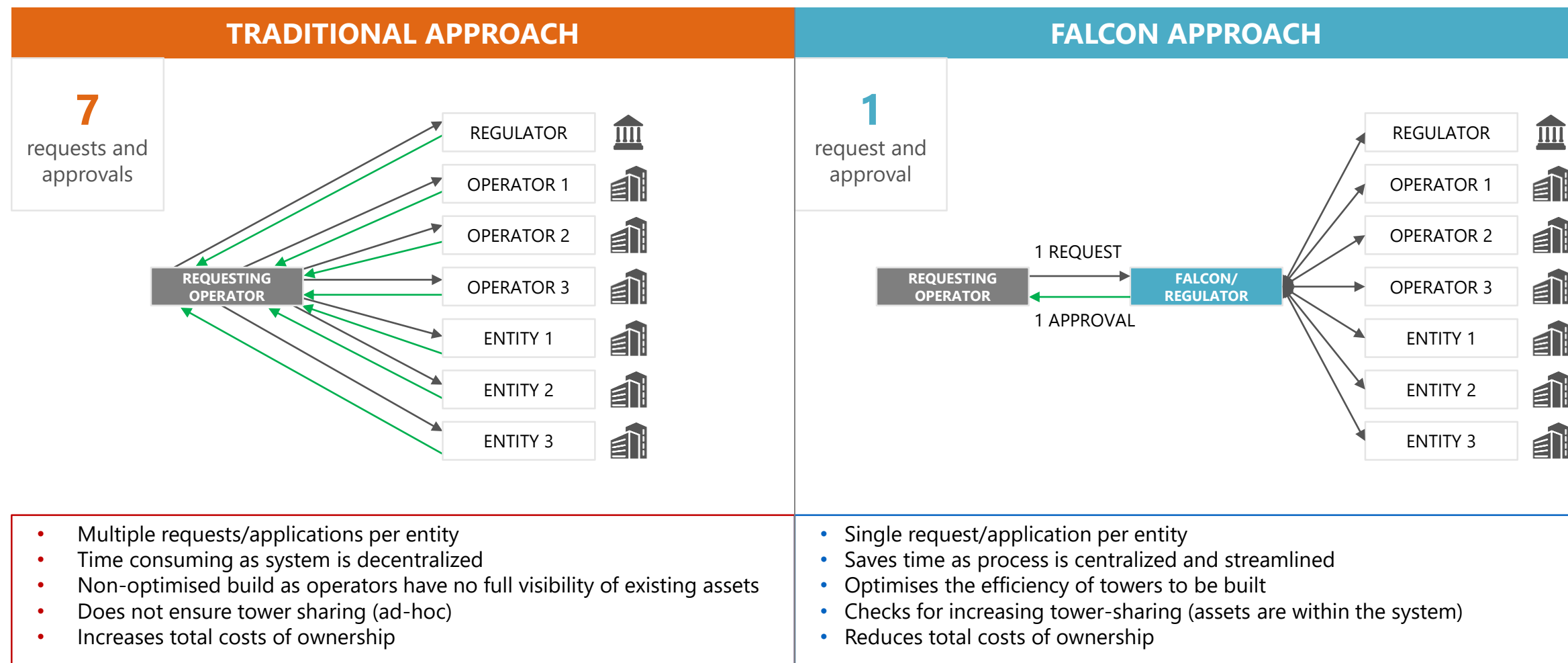


BUSINESS CASE

- Operators lack clear TowerCo business cases, licensing, SLAs, and obligations. A tower system can help clarify the business case and proposition.




01. WHAT ARE THE COMMON CHALLENGES?

Permitting & approvals processes are time-consuming and tedious



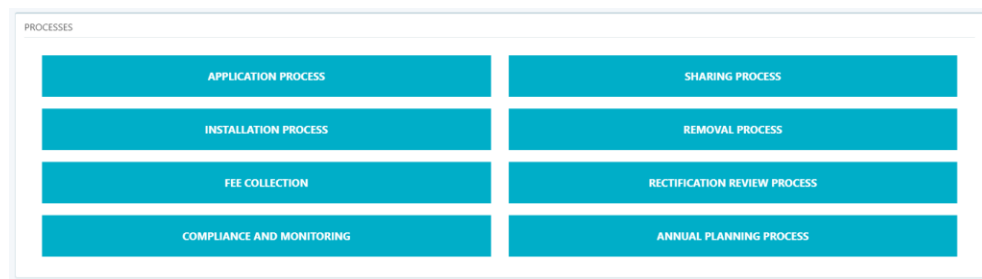
01. WHAT ARE THE COMMON CHALLENGES?

Sample and full-audit of tower assets

TRADITIONAL SAMPLE AUDIT	FALCON'S FULL AUDIT
 <p>2% of sites audited</p> <p>98% of sites unaudited</p>	 <p>100% of sites audited</p> <p>Use  to unlock your assets</p>
<ul style="list-style-type: none"> • Limited overview of existing assets • Limited valuation of assets limits ability of vendor to negotiate • Out-of-date database 	<ul style="list-style-type: none"> • Full visibility of existing assets • Full valuation of assets for purchase or selling of tower assets • Up-to-date database

02. WHAT IS FALCON?

Our two main components to deliver you a solution



SOFTWARE

- ✓ Easily managed software



MANAGED SERVICES

- ✓ Team of experts to manage your new tower system

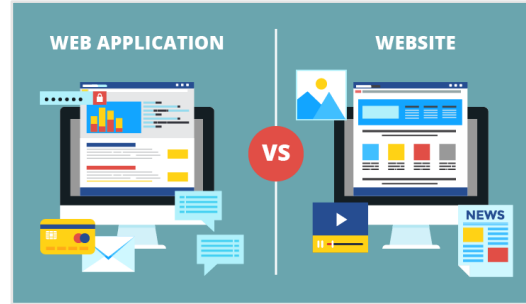
02. WHAT IS FALCON?

Integrated System for Tower Management



Mobile Application

The FALCON mobile app will be a tool that field engineers will use to input the data and information found in the field during the audit process. It will enable the field engineers with input templates for different audit categories. It will be organized in multiple operational groups.



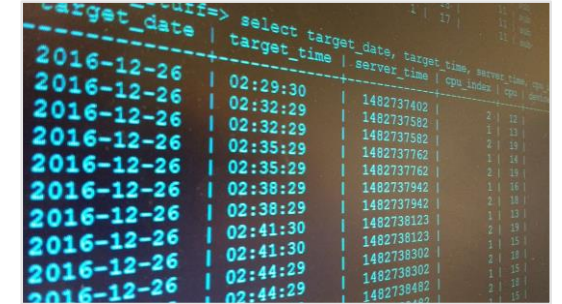
Web Application

The FALCON web application will enable engineers and the client with multiple functionalities.



FALCON API

The API will be used mainly as the connecting point between the web and mobile applications with the central FALCON database but also as the integration point for the 3rd party applications. It will cover CRUD (Create, Read, Update and Delete) functionality for all business elements of the audit scope of work.



FALCON Database

The main FALCON database will contain all of the audit data streamlined to the FALCON tables directly from the field.

03. WHY FALCON?

We stand out from the rest because we offer



✓ **END-TO-END SOLUTION**

We provide you with an end-to-end solution. We build, we operate, and we transfer the system to you under our proven Build, Operate and Transfer (BOT) methodology.



✓ **TELECOM EXPERTISE**

We have telecom and tower experts on the team to help you customize the software to fit your requirements. Our consultants have extensive experience working with tier-1 telecom regulators and operators across Europe, the Middle East, Africa, and Asia such as British Telecom, AT&T, MTN Group, and Etisalat. We are 100% dedicated to the telecoms.



✓ **SOFTWARE ENGINEERING**

We have partnership with GIS software development company, Intelligent Network Solutions (INS), which has experience in developing, deploying and supporting enterprise-software solutions for telecom clients.



✓ **CREATION OF A TEAM**

We support you with recruiting of an on-site team to run and manage the new system.



✓ **MODULAR**

We provide you with a customized system that can be upgraded with modules to suit your requirements or designed with the support of our telecom and tower experts.



✓ **OWNERSHIP**

We provide a fully owned solution. There are no license fees and the solution can be deployed on the client's premises. The deployment can be on site or via the cloud on standard application platforms that could be extended later with additional modules.



✓ **CENTRALIZED SYSTEM**

Our system provides a centralized interface for operators to apply for permits and regulators and government entities to issue permits and monitor the compliance of the towers. It is a win-win solution.

04. WHO IS IT FOR?

TELECOM REGULATORS

- Government entities responsible for ensuring permitting and compliance of tower infrastructure at the national level.
- Our government clients rely on us to help them design and deliver large scale projects, from mission critical public safety networks to optimizing infrastructure sharing on a national level.

PRIVATE OPERATORS

- Any telecom operators, tower operators or private investors responsible for managing towers and that would be required to apply for permitting to the national regulator.
- Our operator clients rely on our practical solutions to help them navigate the rapidly changing telecoms marketplace.

GOVERNMENT ENTITIES

- National entities and authorities responsible for permitting towers such as municipal authorities, ministries of communication or aviation.
- Our government clients rely on us to help them design and deliver large scale projects, from mission critical public safety networks to optimizing infrastructure sharing on a national level.



05. HOW IT WORKS?

THE MAIN FEATURES



CORE FEATURES

- **Single platform** handles all operations from submittal of the request, processing of the application, until issuance of the approval, permit or certificate.
- **Access portal anytime** through the Web. Submit requests through the Web from anywhere.
- **Automated workflows** based on internal business processes and procedures.
- **Simultaneous access of multiple users** (regulators, operators, government entities).
- Network operators upload data for existing sites.
- Tools to manage and track applications and permit approvals.
- Allows assessment of sharing opportunities and compliance.
- Task management for site inspections.
- Fee payment functionality (if required).
- Import and export data/ documentation functions.
- **Dashboards and reporting** in real-time.
- Notification, alert and calendar updates (e-mail and SMS).



MODULAR FEATURES

- **Network infrastructure optimization:** This module will allow for optimising the use of network resources and can automatically detect if two towers are close to each other encouraging tower sharing and reducing costs.
- **Property management and permitting:** By tracking leases and permits the tower operator can have a clear overview of when lease agreements end and send notifications and reminders to collect payments.
- **Fibre infrastructure network data:** This module will be used to manage fibre assets and network.
- **Health and safety:** Used for complying with national and international best-practices for Emergency Calling Procedures including antennas radiation paths/maps for each technology.
- **Fleet management:** integration with fleet management software.



SOFTWARE FEATURES

- **99.99% system availability** (dependent on data centre).
- **Secure system** (256-bit AES encryption).
- **Maintenance and support** (during project).

05. HOW IT WORKS?

One-Stop Shop

NOTIFICATIONS							
Is New	Process Name	Process Number	Site ID	Date	Deadline	From	Notification
/	Application Process	TRA/PRS/2019/057/1/0	POF716	30 Aug 2019 02:11	03 Oct 2019 09:00	TRA	Your Final Permit application with number TRA/PRS/2019/057/1/0 has successfully passed.
/	Application Process	TRA/PRS/2019/146/1/0	TBS806	30 Aug 2019 01:14	/	SCE	Application with number TRA/PRS/2019/146/1/0 has been Rejected by SCE.
/	Application Process	TRA/PRS/2019/150/1/0	GRD915	30 Aug 2019 01:12	/	SCE	Application with number TRA/PRS/2019/150/1/0 has been Rejected by SCE.
/	Application Process	TRA/PRS/2019/151/1/0	GRD916	30 Aug 2019 01:11	/	SCE	Application with number TRA/PRS/2019/151/1/0 has been Rejected by SCE.
/	Application Process	TRA/PRS/2019/072/1/1	NJC720	29 Aug 2019 22:45	04 Sep 2019 09:00	TRA	Your Final Permit application with number TRA/PRS/2019/072/1/1 has been returned for more information.
/	Application Process	TRA/PRS/2019/072/1/1	NJC720	29 Aug 2019 22:43	/	MCP NORTH	Application with number TRA/PRS/2019/072/1/1 has been Rejected by Municipality.
/	Application Process	TRA/PRS/2019/146/1/0	TBS806	29 Aug 2019 18:03	05 Sep 2019 09:00	TRA	Your Final Permit application with number TRA/PRS/2019/146/1/0 has successfully passed.
/	Application Process	TRA/PRS/2019/150/1/0	GRD915	29 Aug 2019 17:59	05 Sep 2019 09:00	TRA	Your Final Permit application with number TRA/PRS/2019/150/1/0 has successfully passed.
/	Application Process	TRA/PRS/2019/151/1/0	GRD916	29 Aug 2019 17:58	05 Sep 2019 09:00	TRA	Your Final Permit application with number TRA/PRS/2019/151/1/0 has successfully passed.
/	Application Process	TRA/PRS/2019/146	TBS806	28 Aug 2019 23:45	/	TRA	Application returned for more information. Submitted application with number TRA/PRS/2019/146 is incomplete and further clarification is required.
<div> < Previous 1 2 3 4 5 ... 15 Next > </div>							
PROCESSES							
APPLICATION PROCESS				SHARING PROCESS			
INSTALLATION PROCESS				REMOVAL PROCESS			
FEE COLLECTION				RECTIFICATION REVIEW PROCESS			
COMPLIANCE AND MONITORING				ANNUAL PLANNING PROCESS			

FEATURES

- **Automated process** for permitting and compliance.
- **Reducing time to issue permits:** Regulator and relevant government entities can review, approve and track applications online simultaneously.
- Allows the regulator to **tag compliance issues.**
- **Public engagement:** Portal allows for public feedback to be tracked.

FALCON
POWER MANAGEMENT SYSTEM
⌵
👤 Sign out

- 🏠 Dashboard 2
- 📢 Notifications
- 📊 Operational Dashboard
- 📄 PRS overview
- 📅 Compare Sites
- 📍 Import Sites
- 📄 Export PRS to excel
- 🔄 Application process
- 🔄 Sharing process
- 🔄 Installation process
- 🔄 Site Removal process
- 🔄 Fee collection process
- 🔄 Rectification review process
- 🔄 Compliance and monitoring
- 🔄 Annual Planning Process

- The PRS Overview feature displays maps that contain PRS of all operators.
- The PRSs of different Operators are painted with different color.

05. HOW IT WORKS?

Permitting & Compliance

COMPLIANCE MONITORING PROCESS

Submit Self-Accreditation Pack

Choose existing site

BLQ374

Submit Self-Accreditation pack:

Choose File

No file chosen

Submit

Back

Required documents for Self-Accreditation pack

- Site Location
- Statement of Compliance with ICNIRP radio frequency levels
- Statement of Compliance with Requirements for the Municipality's Building Permit or Road Occupation Permit, if applicable
- Statement of Compliance with Requirements for the Civil Aviation Authority's No Objection Certificate, if applicable
- Statement of Compliance with Requirements for the Supreme Council for the Environment's No Objection Certificate, if applicable
- Statement of Compliance with Requirements for the Bahrain Defence Forces' No Objection Certificate, if applicable
- Statement of Compliance with Requirements for the General Directorate of Civil Defence's No Objection Certificate, if applicable
- Copy of Valid Electrical and Earthing Test Certificate
- Statement of Compliance with this Regulation
- Current "As built" photos of the type in the original Permit Application

Compliances

Showing 1 to 1 of 1 entries

Compliance Number	Status	Site ID	Site Name	Site Type	Zone	Issued on	Deadline	Accreditation Pack	Is Accreditation Valid	Site Passes	Is Fined
70001	Pending	AAL312	A'ali 2	Rooftop Mast	Residential / Housing Areas	01 Oct 2019 14:36	08 Oct 2019 00:00		/	/	/

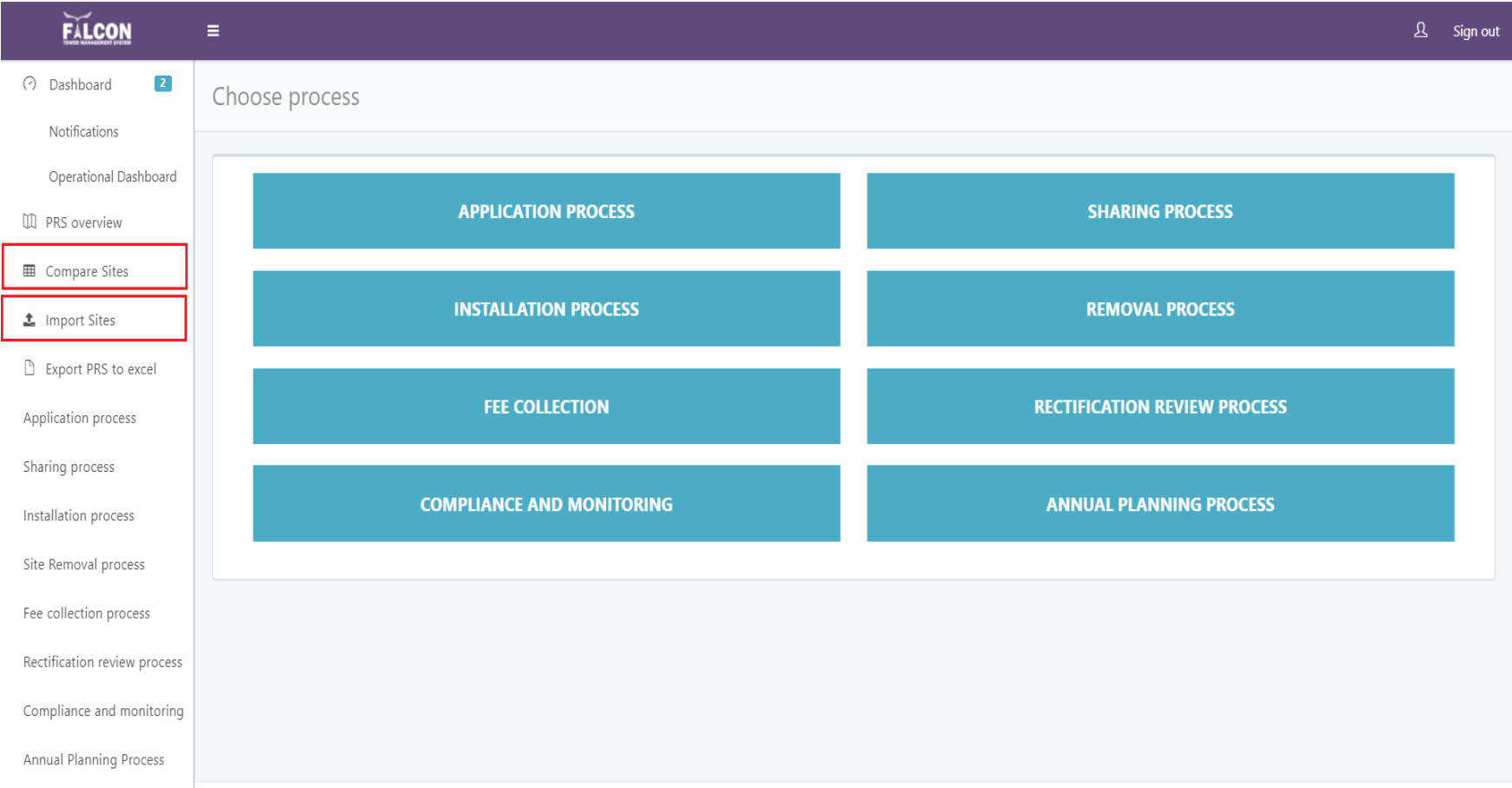
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FEATURES

- **Automated process** for permitting and compliance.
- **Reducing time to issue permits:** Regulator and relevant government entities can review, approve and track applications online simultaneously.
- Allows the regulator to **tag compliance issues**.
- **Public engagement:** Portal allows for public feedback to be tracked.

05. HOW IT WORKS?

Import & Export of Data



FEATURES

- Importing Site as bulk data from Excel
- Possibility to compare existing data with data from field

05. HOW IT WORKS?

Detailed Site Information

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Dashboard

KPIs

PBS overview

Report KPIs to excel

Application process

Sharing process

Installation process

Site Removal process

Site collection process

Rectification review process

Compliance and monitoring

Annual Planning Process

Site details for SiteName (Operator1)

Photos

Location

Basic information

Operator

Station ID

Station Name

Physical address

Site Operational Status

Site Geographical Classification

Site Equipment OEM

Is shared

Owning Operator

Height from ground level (meters)

Height from roof level (meters)

Have building permit

Permit number

Future sharing capacity

Title deed number

Plot number

Site Power Capacity Available

Site Power Source Type

Site Cleanliness details

Site Type description

Site Access Methodology

Site Tagging Methodology

Site Government Regulation

Is corrective action required?

Site Tower Foundation Details

Site Competition

Zone

Is allowed for building in this zone?

Site Sec Connection Status

SEC master details (ConsumerNumber/Serial/Name)

Site Landlord Details

Basic information

District

Location name / Town

Site access road

Margin of error

Access network or backbone

Type of backbone aggregation links

Access

Security access

Power

Fence

Site Gate

Site signage

Site security lighting

Site Pipes

Site Cables

Site Active Equipment

Site Transmission Status

Fence Description

Tower Loading Details

Fire fighting system

Telcom equipment (Indoor/outdoor)

Site Tower equipment installed other than Telecom

Site Shelter equipment installed other than Telecom

Site Ground equipment installed other than Telecom

Site AC Power Equipment

Date installed

Technologies

Video monitoring capabilities

Device type

Number of devices

Focus length of lens

Resolution of the sensor

Height vision capability

Orientation of devices

Documents

Date uploaded

File name

Uploaded by

Dashboard

Notifications

Operational Dashboard

PBS overview

Compare Sites

Import Sites

Report KPIs to excel

Application process

Sharing process

Installation process

Site Removal process

Site collection process

Rectification review process

Compliance and monitoring

Annual Planning Process

Edit site

Basic information

Operator

Station ID

Station Name

Physical address

Site Operational Status

Site Geographical Classification

Site Equipment OEM

Height from ground level (meters)

Height from roof level (meters)

Have building permit

Permit number

Future sharing capacity

Technologies

Date installed

Type

Title deed number

Plot number

Site Power Capacity Available

Site Tower Foundation Details

Is corrective action required?

Site Power Source Type

Site Cleanliness details

Site Type description

Site Access Methodology

Site Tagging Methodology

Site Government Regulation

Site Sec Meter Details (ConsumerNumber)

Site Sec Meter Details (SerialNumber)

Site Sec Meter Details (Name)

Site Landlord (Name)

Site Landlord (Mobile)

Site Landlord (Address)

Site Landlord (Document No)

Basic information

District

Location name / Town

Site Access Road

Margin of error

Access network or backbone

Type of backbone aggregation links

Access

Security access

Power

Fence

Site Gate

Site signage

Site security lighting

Site Pipes

Site Cables

Site Active Equipment

Site Transmission Status

Tower access

Fire fighting system

Telcom equipment (Indoor/outdoor)

Documents

Choose File

No file chosen

Date uploaded

File name

Uploaded by

Plot corners

Choose File

No file chosen

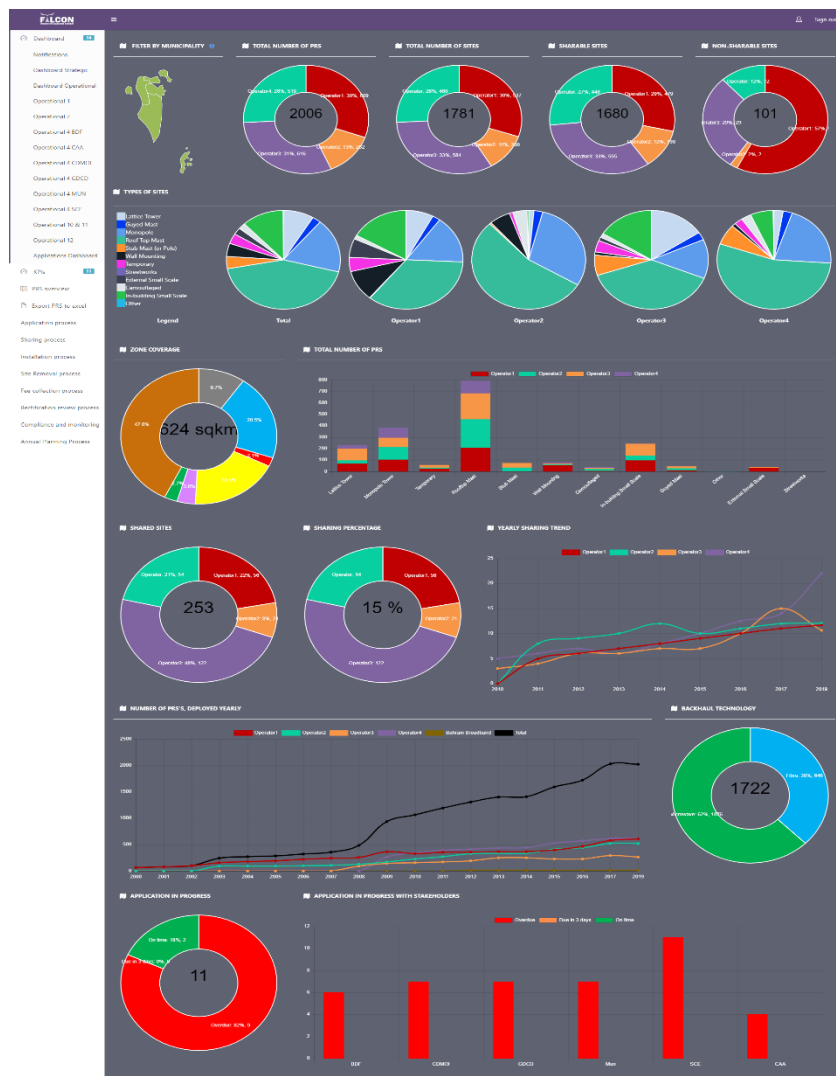
Download template

Longitude

Latitude

- FEATURES
- **GIS powered system** showcasing location of approved masts, types of masts, zone type in which they are located, and ownership by operator.
 - **Data can be exported in Excel** for further analysis.
 - **Use of the FALCON Excel template** to import bulk sites data in the system.

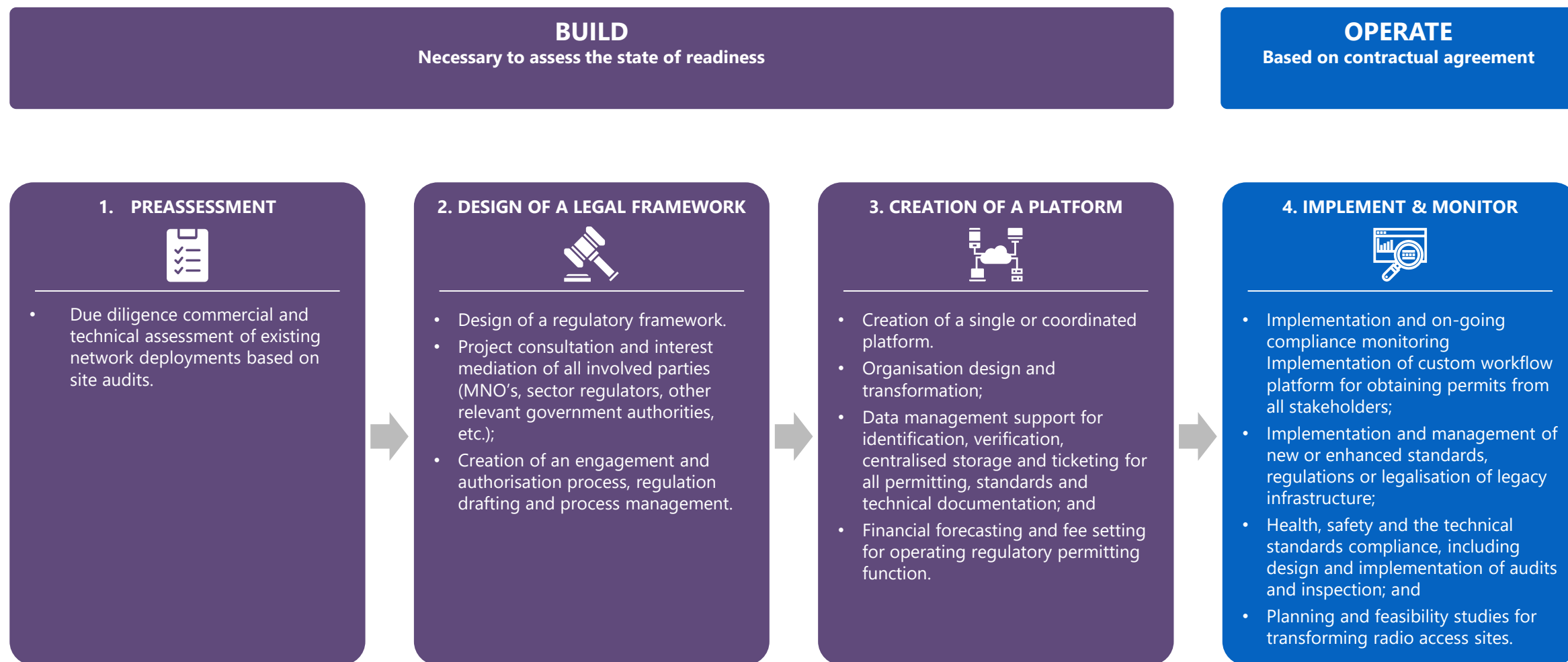
Dashboards & Reporting

[illegible]

- **Portal provides overview of the application status**, monitoring of current situation and compliance with regulations in real-time.
- **Portal facilitates Annual Planning Process** to coordinate key stakeholders.
- **Provides KPIs to track progress** to established goals in annual meetings.

06. HOW IS IT DEPLOYED?

We offer an end-to-end services and solution for you based on the Build-Operate-Transfer (BOT) model.



07. WHAT ARE THE BENEFITS?

One-Stop Shop

- Offers visual dashboards and reporting from the main menu
- Facilitates Annual Planning Process and collaboration among users (regulators, operators, and relevant entities)
- Allows for public engagements and inputs
- Real time data accessible from anywhere

Tower Regulation

- Clear regulatory framework for application, sharing, installation and removal
- Online, automated and transparent procedure for tower permitting
- Online fee collection and approvals
- On-time permitting process (no more delays)
- Compatible with other government agency tools

Infrastructure Sharing

- Increased sharing of existing sites
- Reduced costs due to joint planning and investments
- High quality of service offered to customers
- Software can be extended to other infrastructure fibre/duct

Real Time Compliance and Monitoring

- Centralized digital inventory of operator assets
- Real-time permit tracking and status updates
- Removal of illegal towers and improvement in aesthetics

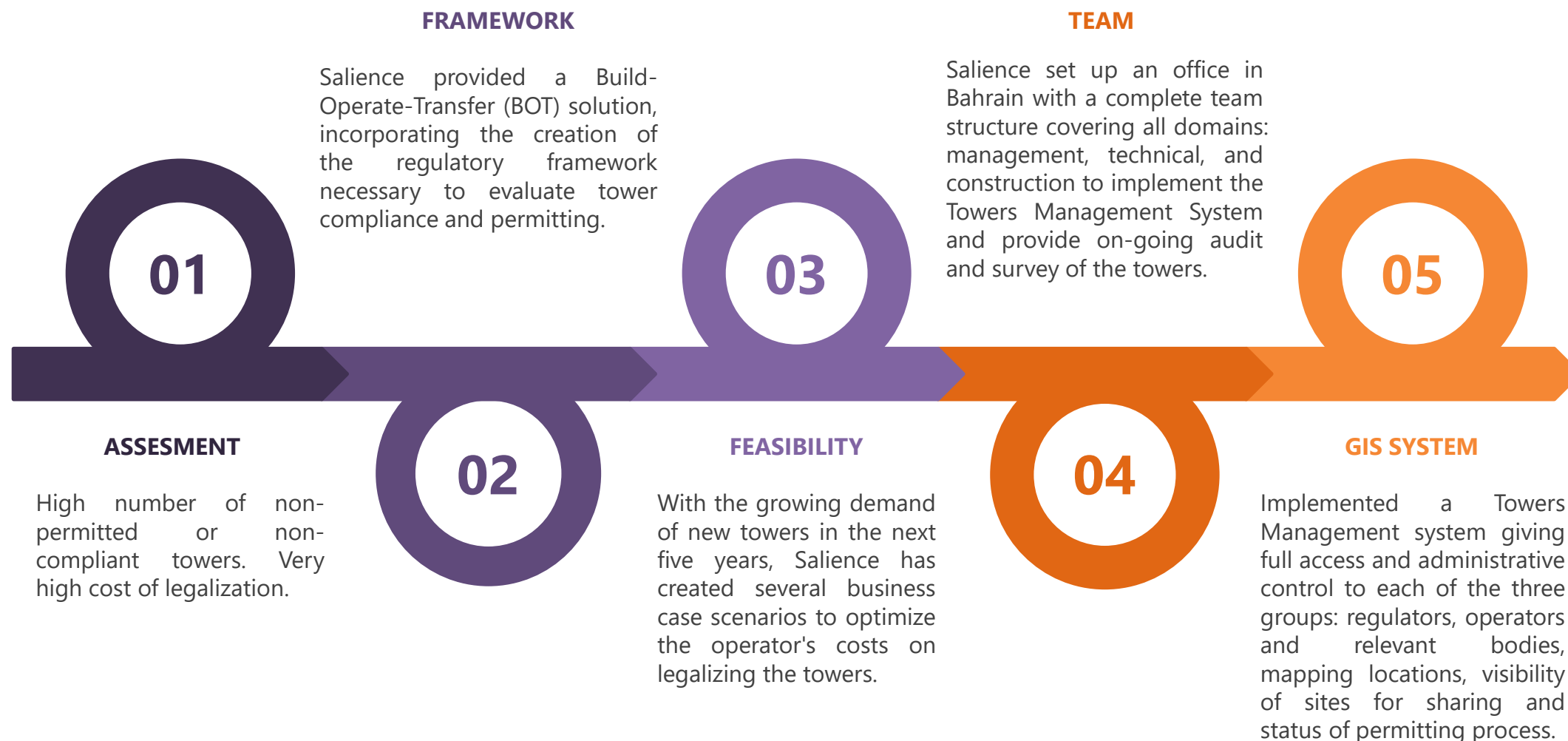
Safety & Security

- Regular audit of sites ensures towers are properly maintained
- Enhanced national security with national database



08. WHERE IS IT DEPLOYED?

Deployed with the Telecommunications Regulatory Authority (TRA) of the Kingdom of Bahrain.



09. WHAT ARE THE FUTURE DEVELOPMENTS?



Challenge

MANAGING FIELD WORKERS: Google maps or other navigation software (Tom Tom, HERE, etc.) are providing routing to the existing and known roads in their database, but most of the Green Field towers are in difficult accessible area with no roads digitized, so it is very important for the field workers to have relevant information about the accessibility and time need to reach the site.



Solution

MODULE FOR TOWER/SITE ACCESS ROUTE MANAGEMENT

- A. Digitalization (or automatic use of the GPS routes of the field vehicles) to create tower's access roads database
- B. Integration of GPS Fleet with FALCON Tower Management System
 - i. Help field workers with navigation and estimation of time of arrival to access the site
 - ii. Optimize workforce and fleets by providing information about nearest route based on the current live location
 - iii. Alert the nearest field staff via SMS, Data, E-mail

09. WHAT ARE THE FUTURE DEVELOPMENTS?



Challenge

DECENTRALIZED AND DISINTEGRATED INFORMATION

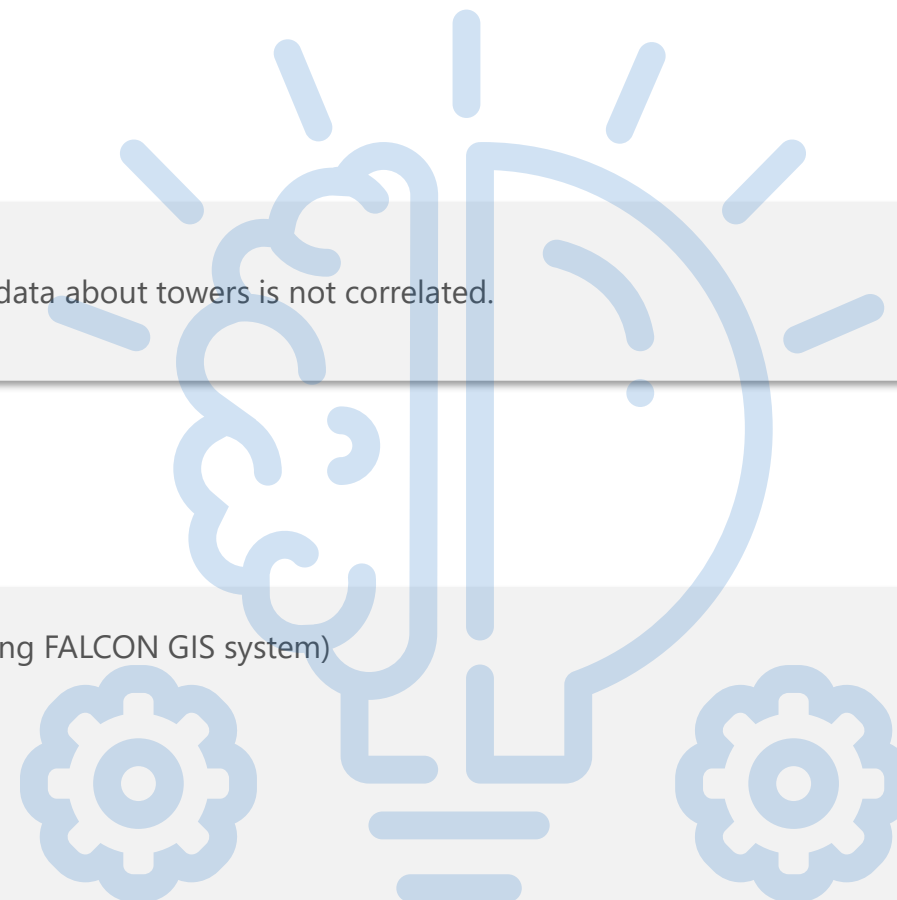
Many systems containing information about towers, many different sources, many live data about towers is not correlated.



Solution

MODULE FOR INTEGRATION AND DATA CONSOLIDATION (an upgrade to the existing FALCON GIS system)

- A. Integration with alarm management solution (Alarms, CCTV, Security, etc.)
 - i. Notifications in real time
 - ii. Health Status of the equipment
- B. Integration with ERP systems
- C. Integration with telco systems: Radio Planning tools, OSS, BSS



09. WHAT ARE THE FUTURE DEVELOPMENTS?



Challenge

INEXPERIENCED TEAMS OR TEAMS DEALING WITH NEW TOWERS

Many times teams on the field are new and it might be their first time to be on that site (sometimes they are even not experienced with the equipment on the site)



Solution

AUGMENTED REALITY MOBILE APPLICATION FOR FIELD DATA MANAGEMENT

From physical documentation, moving to the desktop, to the progression of mobile, to now wearable devices/technology (Augmented Reality)

- A. Workforce through augmented reality in its wearable technology guiding technicians in real-time to complete tasks, checklists, work orders, and send media to managers, in real-time, so managers can access the information instantaneously
- B. Managers/Engineers to create their own smart instructions for assets
 - i. Less human error
 - ii. Increased safety
 - iii. Following step-by-step on repair processes
 - iv. Optimising time needed to complete work
 - v. Complying with facility procedures

10. WHY US?



100% telecom management consultancy with practical operational and deployment experience. .

TELECOM EXPERTS with experience with regulators and tier 1 operators

Served clients in the
**MIDDLE EAST, ASIA,
EUROPE & NORTH
AMERICA**

1st ONE-STOP FUNCTION
for mast permitting and
planning in **MENA**

**1st AND FASTEST ALL FIBRE
BROADBAND** internet service
provider in **MENA** 1st tower
manager

**1st SUCCESSFUL NATIONAL
BROADBAND** network provider
in **MENA**

Salience Introduction

Salience is an established
telecom management consulting
and professional services
organisation

100% focused on MENA's telecom
regulators, operators, investors and government
ministries for strategic, regulatory and technology
excellence

Our resolute industry focus has cemented Salience as the go-to advisor and on-ground implementer of telecommunications knowhow, entrusted by:



Our Value Proposition

Our Purpose

We transform countries and communities through telecoms
going beyond strategic advisory and assuring success by taking ownership of execution.
Put simply; we make things happen

Our Strengths



World class experts

Senior executives and industry veterans from international operators and management consultancies including British Telecom, AT&T, PA Consulting, PwC



Regional knowhow

Our consultants have working knowledge of successful delivery in MENA since 1991 - we understand the challenges, opportunities and local culture.



Rich delivery record

Having launched new operators, helped established regulatory bodies and driven economic growth through national infrastructure investment



Vendor independent

Allows us to purely focus on developing the best solutions for our clients, unhindered by vested interests.

TELECOM REGULATORS & regulatory functions

Regulatory

Regulatory economics
Cost modelling
NBN policy and regulation
Market definition & competition
Regulatory process and capacity
Digital regulation
Operator regulatory compliance
Litigation support

TELECOM INVESTORS Institutional, private, public, PPP

Investment

Market analysis & feasibility
Investment business case
Preliminary valuations
Funding & investor connect
Financial and cost modelling
New entrant planning
M&A sell/buy advisory
Operator investment governance

TELECOM OPERATORS Fixed, Mobile, MVNO, Public Safety/Mission Critical

Next Generation Networks

Subsea transit & capacity
Terrestrial core network
National Broadband Network (NBN)
Fibre to the Home (FTTH)
Radio Networks (3G/4/5G)
Public safety & mission critical
Regional Wi-Fi (WiMax)
Narrow Band IoT

Operator Launch & Enablement

Launch & interim management
Organisation development
Finance, legal & regulation
Technology & engineering
Marketing & Sales
Product management & PLM
Operational systems, policy & process
Customer care

Digital Operator

Digital assessment & roadmap
Transformation & change management
Connected operations
Agile portfolio & partner ecosystem
Rapid time to market
Solutions capable sales
Analytics & experience
Innovation centre & impact

Our Success Highlights

Our Impact

Since 2010, Salience has made a positive social and economic impact through national and international telecommunication programmes.

- Established new National Broadband Network and retail operators
- Assisted governments in bringing fair coverage to rural communities
- Developed improved East-West continental subsea connectivity
- Four regional offices including in Bahrain



12	62	1991
Regional markets	Countries accessed	Towers under our supervision
Serviced on-location by Salience	As part of our World Bank Project deliverable to review investment impact	On behalf of the Bahrain Telecommunications Authority

Our Regional Firsts



THE FASTEST FIXED
BROADBAND PROVIDER
IN OMAN

1st AND FASTEST ALL FIBRE BROADBAND internet service provider in MENA

1st SUCCESSFUL NATIONAL BROADBAND network provider in MENA

1st ONE-STOP FUNCTION for mast permitting and planning in MENA

Salience Regional & Sector Credentials



Establishing an effective ICT regulator for Kuwait



Tower rationalisation and permitting for Bahrain's Regulator



Affordable internet for all study across 62 countries



Reducing the broadband gap between urban and rural areas



Subsea strategy connecting the Middle-East to the world



Subject matter expertise for regional strategic projects



National broadband network launch in Qatar



End to end retail broadband operator launch in Oman



National broadband network launch in Oman



Bringing public safety and digital innovation to save lives



Feasibility study and business case of secure private network



Broadband strategy & implementation support

INS Introduction



INS is an award-winning company specialized in smart GIS solutions

We develop GIS software applications from scratch, tailored to your specific needs. We have 15+ years experience designing, developing, maintaining and integrating GIS products.

Our GIS solutions have helped municipalities, government agencies, telecommunications companies and international donors to intelligently manage infrastructure:



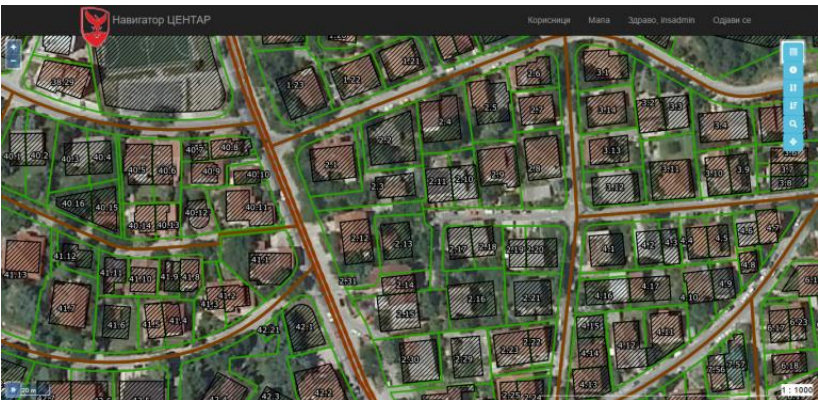
Our value proposition

Tailor-made GIS solutions in one place

We build smart cities and companies with intelligent and custom-made GIS solutions by leveraging our broad international experience, multi-disciplinary team and expertise across multiple platforms.



World Bank award for the Real Estate Cadastre and Registration project in Macedonia as part of the 'Improving the Lives of People in Europe and Central Asia' 2017 competition



Our strengths



GIS Expertise

We developed 25 own GIS products and worked on over 110 IT projects worldwide. Our team of 45 always delivers high-quality products and solutions. We have ISO 9001:2015 Quality Management System certification.



Technological Versatility

Our solutions are powered by enterprise grade RDBMS and GIS servers. We have in-house experience and knowledge in both commercial and open-source software development.



International Reputation

We delivered projects to 355 clients in 16 countries. Our offices are located in Skopje (Macedonia), Vienna (Austria), Abu Dhabi (UAE), and Sydney (Australia). We are currently expanding in the US.



Customised Software

We base our architectures in open source, open API, open protocol approach in order to guarantee unlimited scalability for our clients. We design software from scratch, tailored to your requirements.

City Governments & Private Investors Services

Smart Infrastructure Management, Waste Management, GPS Fleet Management, Smart Parking, Tourism, Economic Development

GIS Software Development

GIS for Web, Desktop, Cloud and Mobile
Land management and urbanism
Agriculture
Telecommunications
Utility and Electricity
Asset and Inventory Management
Agriculture, Natural Resources and Environment

Managed Customer Services

Manage customer back-end operations
Business analysis
Product catalogue development
Revenue Management

Consulting

Consultancy and outsource development services
Web development
Mobile app development
RDBMS design
GIS data management
Business Case & Cost Benefit Analysis
Training



PRESENT IN 4 REGIONS



EUROPE



MIDDLE EAST



AUSTRALIA



NORTH AMERICA



TECHNOLOGIES WE USE



MapServer



python™

QGIS



Windows Phone



GeoServer

django



ArcGIS



java



Microsoft SQL Server



SERVICES IN



LAND MANAGEMENT &
URBANISM



AGRICULTURE



TELECOMMUNICATIONS



UTILITY & ELECTRICITY



AWARDS



WORLD BANK



DEUTSCHE TELEKOM



FUND FOR INNOVATION

INS Regional & Section Credentials

INS delivers custom-built GIS solutions for cities and telecommunications clients



Macedonia - Cadastre

Developed the GIS platform for the Agency for Real Estate Cadastre of Macedonia and received a 2017 World Bank award.



Croatia – APZ

Web system with tools for fast analysis based on a geodata set describing agricultural parcels for the Croatian agency for agriculture.



UAE - ADNOC

GIS Property and Land Management information system for the Abu Dhabi National Oil Company.



Macedonia - VIP

Worked with mobile operator One.Vip of Macedonia, member of Telekom Austria Group.



Macedonia - Strumica

Created infrastructure and urban management GIS platform for the municipality of Strumica.



Macedonia - USAID

INS worked with the United States Agency for International Development on a local economic development project.



USA - SPX

Worked on integrated GIS solutions for a Global and multi-industry Fortune 500 company from the USA.



Macedonia – T-Mobile

Mobile operator active in Macedonia since 1996, member of Deutsche Telekom group.



Macedonia - Kocani

Developed underground infrastructure cadastre in the municipality of Kocani.



Macedonia – Swiss

Swisscontact is the Swiss Development Agency with presence in Macedonia.



Netherlands - Tauw

Delivered GIS solutions for an independent European consulting and engineering company.



Macedonia - AEC

Developed GIS asset inventory maps for the Agency for Electronic Communications of Macedonia.

CITIES, MUNICIPALITIES, AGENCIES

COMPANIES

TELECOMMUNICATIONS

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consulting

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