KTL

KTL

SERVICES BROCHURE

#KTL, #ConnectingCommunities

SmartScore AP

WiredScore AP

List of Services

SmartScore and WiredScore Partner

Transmission

KTL Acquisition and Planning Services

KTL Design Services

RAN A,D & C

Project & Programme Management

IT, Cyber and ERP

Safety, Health, Environment, Quality

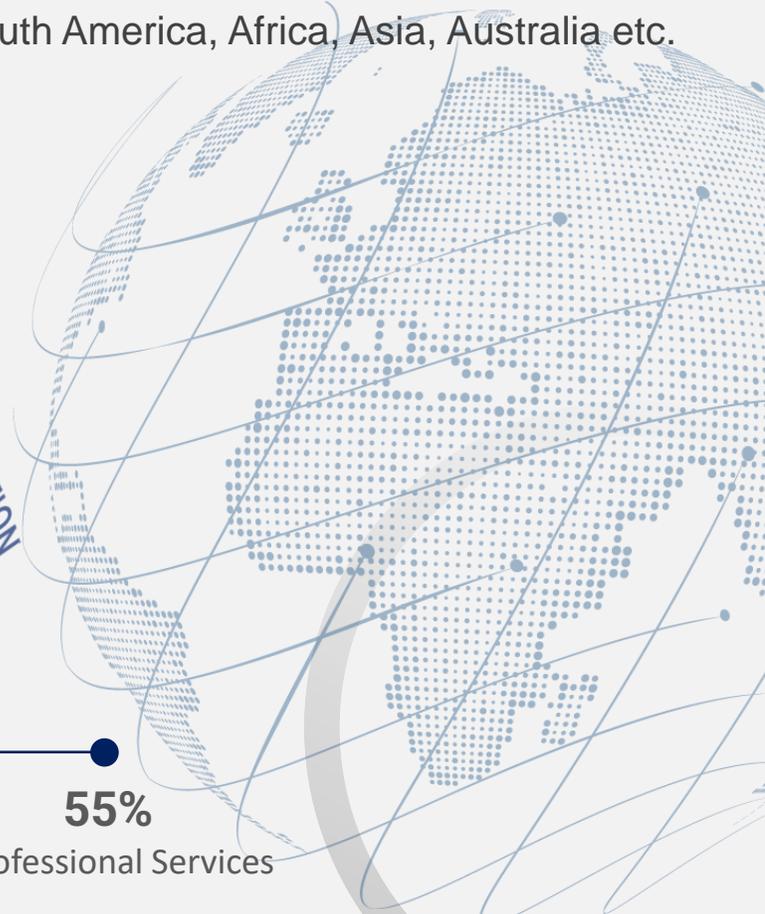Over **650 staff,**
5 continents,
22 countries globally

Europe, South America, Africa, Asia, Australia etc.

KTL STAFF DISTRIBUTION

+650
staff

45%
Field staff

55%
Professional Services

KTL Transmission

SmartScore AP

KTL are a fully accredited SmartScore Partner.
Helping clients realise the full digital potential of their infrastructure.

What is it?

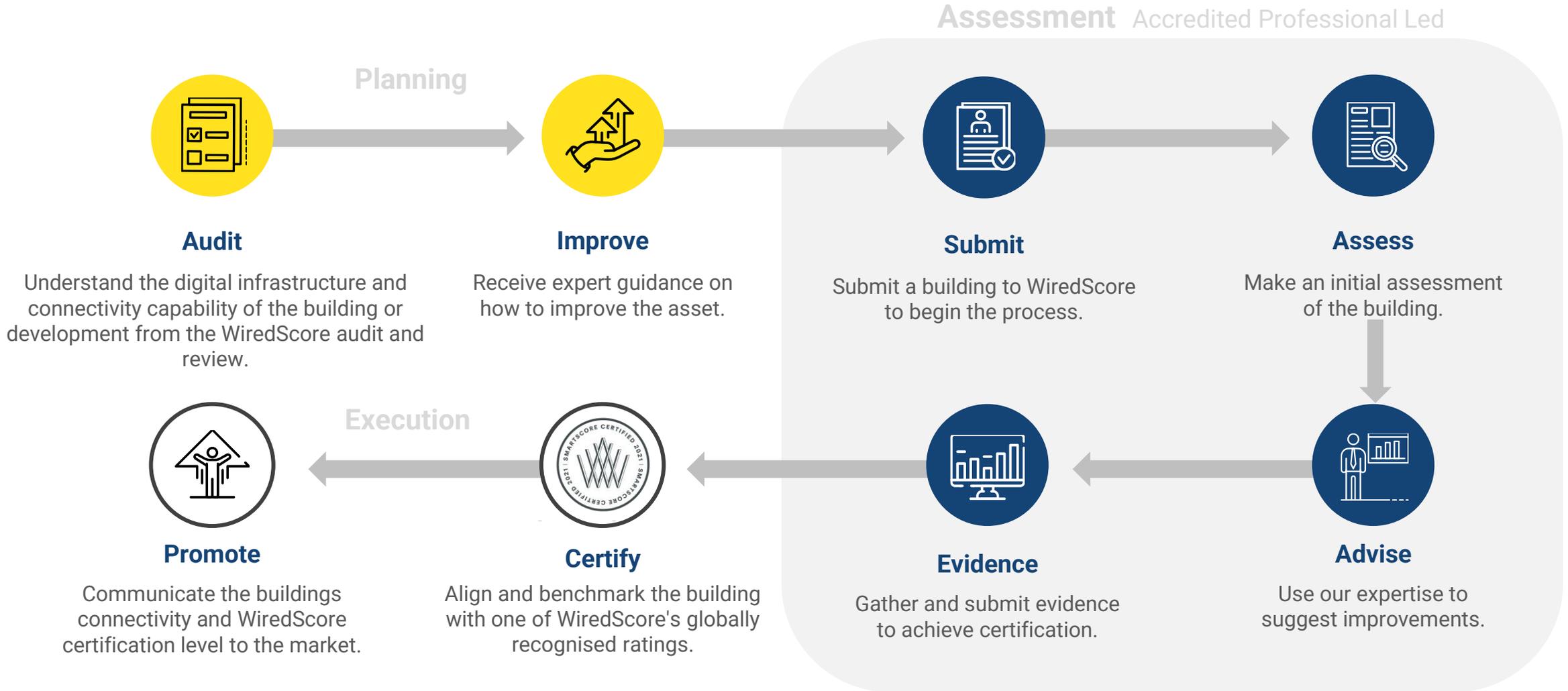SmartScore is the global certification and rating system for smart buildings from WiredScore. Providing a global benchmarking standard, SmartScore helps bring better clarity and definition for smart buildings, aiding landlords and property owners in achieving buildings that deliver exceptional user experiences, drive cost efficiency, meet high standards of sustainability and are future-proof. There are four possible certification levels (Certified, Silver, Gold, and Platinum) that are achieved by meeting a minimum set of requirements and accomplishing a specific number of points to achieve each level.

What is Certification Process?

Planning

Audit
Understand the digital infrastructure and connectivity capability of the building or development from the WiredScore audit and review.

Improve
Receive expert guidance on how to improve the asset.

Submit
Submit a building to WiredScore to begin the process.

Assess
Make an initial assessment of the building.

Execution

Promote
Communicate the buildings connectivity and WiredScore certification level to the market.

Certify
Align and benchmark the building with one of WiredScore's globally recognised ratings.

Evidence
Gather and submit evidence to achieve certification.

Advise
Use our expertise to suggest improvements.

What is Measured?

SmartScore was created in collaboration with the owners and users of the world's most advanced properties. The certification provides clarity on what constitutes a smart building from a User Functionality perspective and guidance on a how to implement one from a Technological Foundation stand-point.

User Functionality

Assess and measures a building's ability to deliver the outcomes across the following categories:

- ✓ Individual and Collaborative Productivity
- ✓ Health and Wellbeing
- ✓ Community and Services
- ✓ Sustainability
- ✓ Maintenance and Operations
- ✓ Safety and Security

Technical Foundation

Assess and measures the building's technology, processes and procedures across the following categories:

- ✓ Tenant Digital Connectivity
- ✓ Building Systems
- ✓ Landlord Integration Network
- ✓ Governance
- ✓ Cybersecurity
- ✓ Data Sharing

SmartScore

What are the Results/Benefits?

Inspiration

An inspirational experience, a workplace that attracts and delights, with flexible and personalised services.

Efficiency

Cost efficiencies created by Optimising the building's performance.

Future-Proof

Future- proof by design and able to adapt to new demands.

Sustainability

A sustainable building through a reduced whole-life carbon footprint by using technology to operate the building more efficiently.

How can KTL Help?

From Certified to Platinum, we can help you achieve the desired level of certification for your building by guiding you through the process, managing the application, identifying any gaps, and by providing the design services needed to reach your goals.

Contact Paul at paul.korzeniewski@ktl.ie to find out more.

WiredScore AP

KTL are a fully accredited WiredScore Partner.
Helping clients realise the full digital potential of their infrastructure.

What is it?

WiredScore is a global certification and rating system that helps owners, operators, and managers assess, improve, benchmark, and promote their buildings' digital connectivity and infrastructure. There are four possible certification levels (Certified, Silver, Gold, and Platinum) that are achieved by meeting a minimum set of requirements and accomplishing a specific number of points to achieve each level.

WiredScore Office for New Developments

By optimising design during the planning and construction of a development, avoid future retrofit costs, attract tenants early, and enhance the building's reputation.

- ✓ Attract Tenants
- ✓ Avoid Future Retrofits for Next-Generation Technology
- ✓ Optimise Building Design Process
- ✓ Enhance Building Reputation

WiredScore Office for Occupied Buildings

WiredScore helps identify connectivity features worth marketing, making buildings stand out from the crowd, leasing faster, and increasing asset value.

- ✓ Lease Faster and Reduce Vacancy Rates
- ✓ Differentiate from Competition
- ✓ Better Understand Property's Connectivity Infrastructure
- ✓ Safeguard Against Obsolescence

What is Certification Process?

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Advise

Use our expertise to suggest improvements

What is Measured?

Digital connectivity is essential to modern working life. WiredScore ensures that developments are technologically forward-thinking and ready to attract the next generation of business tenants. We do this through a careful assessment of:

Resilience

Tenant Experience

Mobile Coverage

Choice of Providers

Future-Readiness

WiredScore

What are the Results /Benefits?

Leasing

Translate complicated telecommunications and engineering language into clear value for owner and tenants

Asset Management

Gain benchmarking analysis to help guide future-proofing decisions and investments

Technical Support

Get ahead of the fast-changing and complex tenant technology demands

Brand & Marketing

Help brand businesses and assets as technologically forward-thinking

How can KTL Help?

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Microwave Designs and Installs

MW Designs and Installs '98 – '22

Legend: ● Installs (navy) ● Design (yellow)

Chart: Y-axis from 0 to 10000 in increments of 1000. X-axis years: 1998, 1999, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018, 2020, 2022.

Installs values approximately: 2008: 500, 2010: 1300, 2012: 2000, 2014: 3000, 2016: 5000, 2018: 6800, 2020: 8300, 2022: 9000.

Design values approximately: 2010: 600, 2012: 1000, 2014: 3000, 2016: 4200, 2018: 4500, 2020: 5000, 2022: 7200.

7000+
MW Links Designed

9000+
MW Links Installed

4000+
MW E2E

KTL Transmission

Microwave End2End Planning process

Benefits

Reduces head count 20-33%

Streamlines productivity

Provides the best cost effective solution

One client PoC for all activities

LOS Positive

Technology Requirements

Link Engineering

Dish Size requirement

Structure Type

GDC/Structure Overloaded

Increased ACQ rent/ Tower strengthen

Network Topology Change
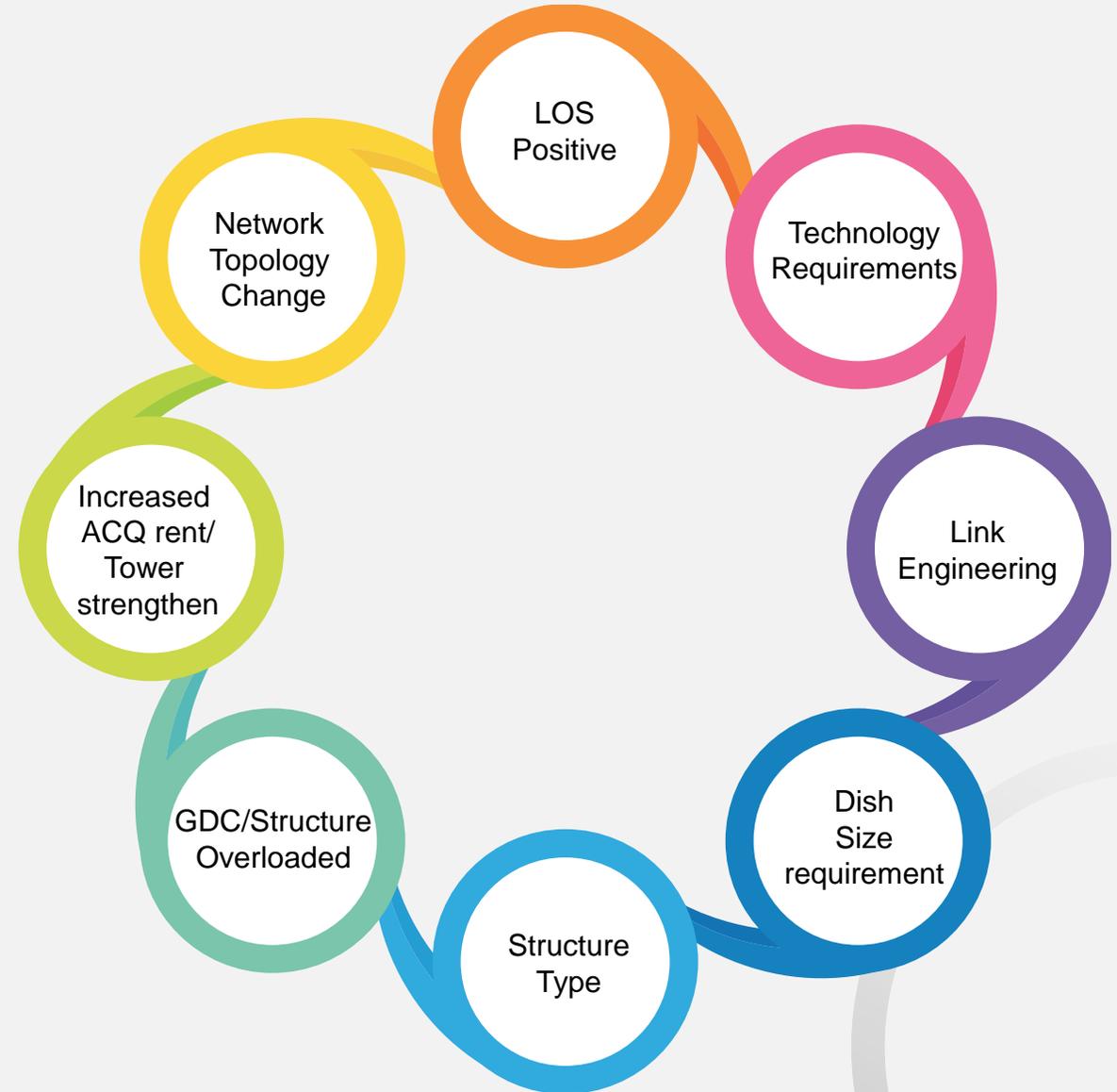
10G mmW Adaptative Code Modulation

QAM 128 64 32 16 Qpsk Bpsk B 1/2 B 1/4 B 1/2 Bpsk Qpsk 16 32 64 128

10G 8.2 6.8 5.4 2.5 1.25 0.6 0.3 0.6 1.25 2.5 5.4 6.8 8.2 10G

Capacity
Gbps
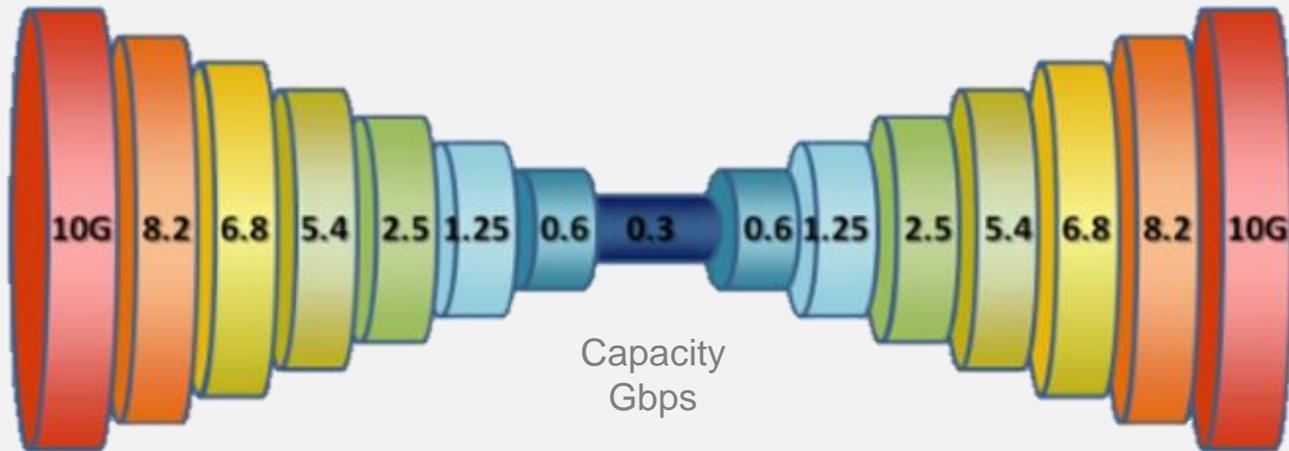
Did you know?

The heavier it rains the less data throughput

Evolution of LOS…

2007

Traditional
3000+ LOS

2012

LIDAR
2500+ LOS
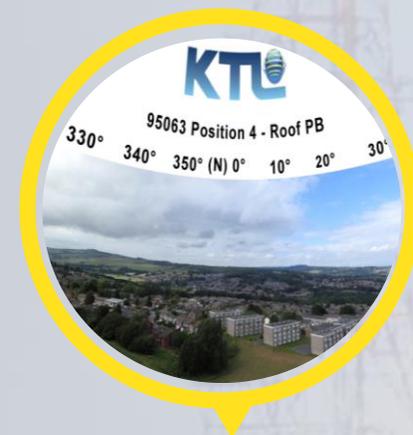
2018

Drones
500+ LOS

New Site Acquisition Highlights

Full turnkey solution

Site searching

PANS

Design/Drawing

Heads of Terms negotiation

Planning

Access

+
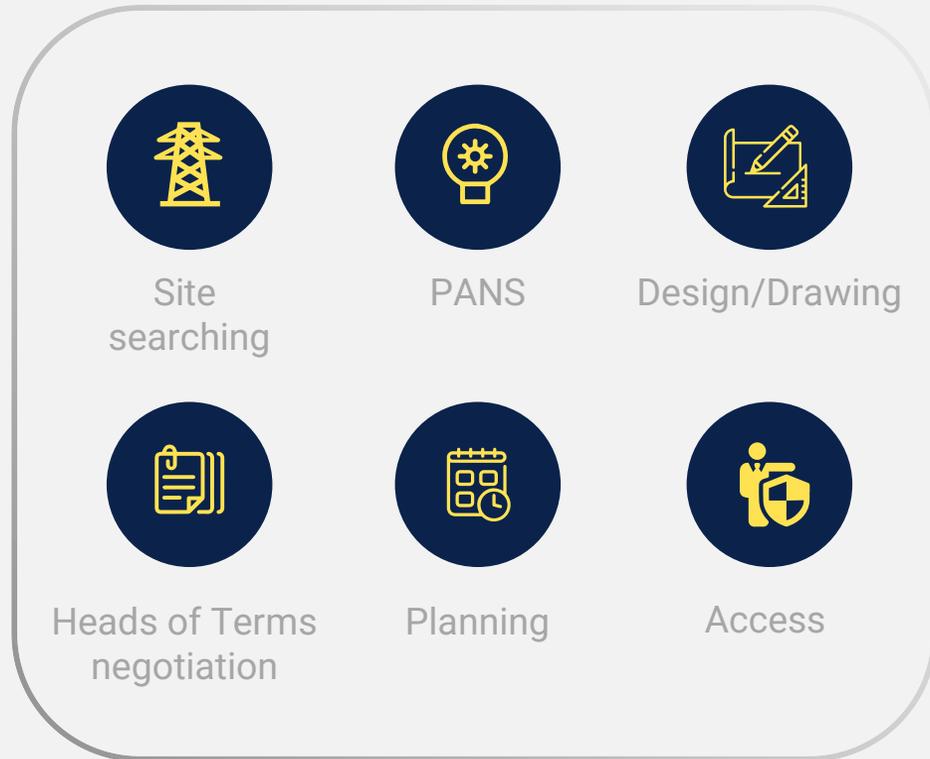
NEW

Internal new Code valuations

Process

Site Search

Site Nomination

Design Survey

GA Drawings

Planning Submission

Terms Negotiation

Planning Approval

Legal Access

Upgrades

Makes up the largest number of ongoing projects for KTL

Sites Acquired

No. of Sites

2018 2019 2020 2021 2022
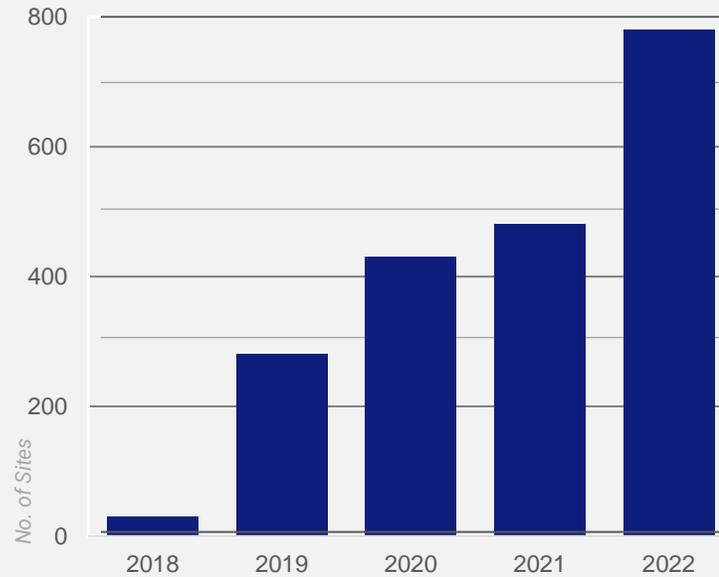
Delivered 1500+ sites to Legal Access per year across all programmes over the last 3 years

Our acquisition and design departments **work together closely** to ensure GA drawings adhere to the rights and desktop analysis output

✓ Reduces unnecessary rework
✓ Speeds up delivery

Site Share |
Third Party Radio Sites

Extensive experience managing applications into all third-party radio site (TPRS) infrastructure providers.

All applications dealt with internally via KTL site share team.

Knowledge and experience of all TPRS management systems and applications.

Strong contacts within relevant organisations enables us to - fast track and prioritise certain applications on behalf of our clients where *urgent target dates are in place.*

KTL Acquisition and Planning Services

Town planning

Excellent success rate of Full Planning and GPDO applications

Large volume of License Notification submissions

Client Instruction ▸ Commence Pre-application consultation ▸ Submit Planning application ▸ Planning Decision
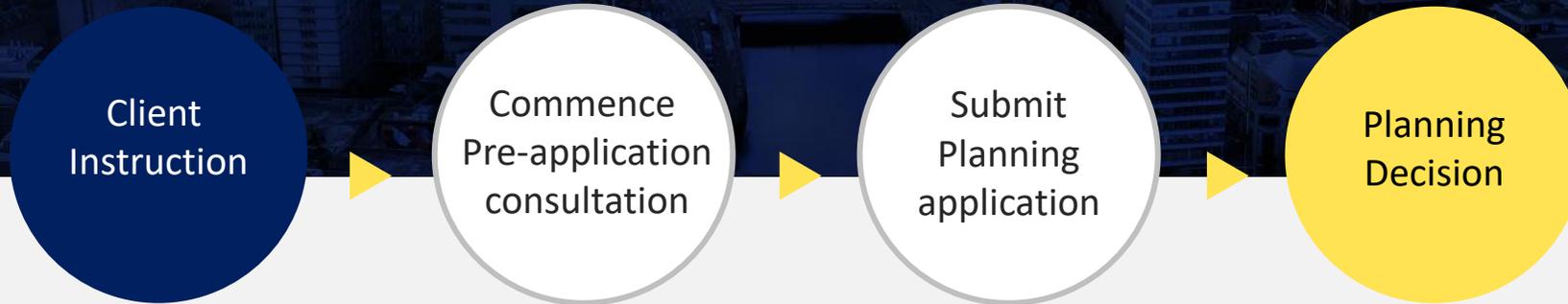
Full Town Planning Services

Did you know?

Planning regulations were relaxed in 2022 in a bid to speed up 5G rollout and reduce costs for operators and LPA's

Electronic Vehicle

✓ Working **with EV charging point supplier**.

✓ **800 new** on-street sites to date.

Did you know?

2030 marks the date when new petrol and diesel car sales will cease in the UK (unless they can prove they have zero emissions).

KTL Design Services

Design Highlights

Full turnkey solution

Site Survey

Drone Survey

Climbing Survey

GA Design

DD Design

In house Dependencies

+

NEW

ICNIRP Analysis

Process

Design Survey

Solution Review

Design Instruction

GA Drawings → As Built Drawings

DD Drawings

Electrical Checks

Structural Checks
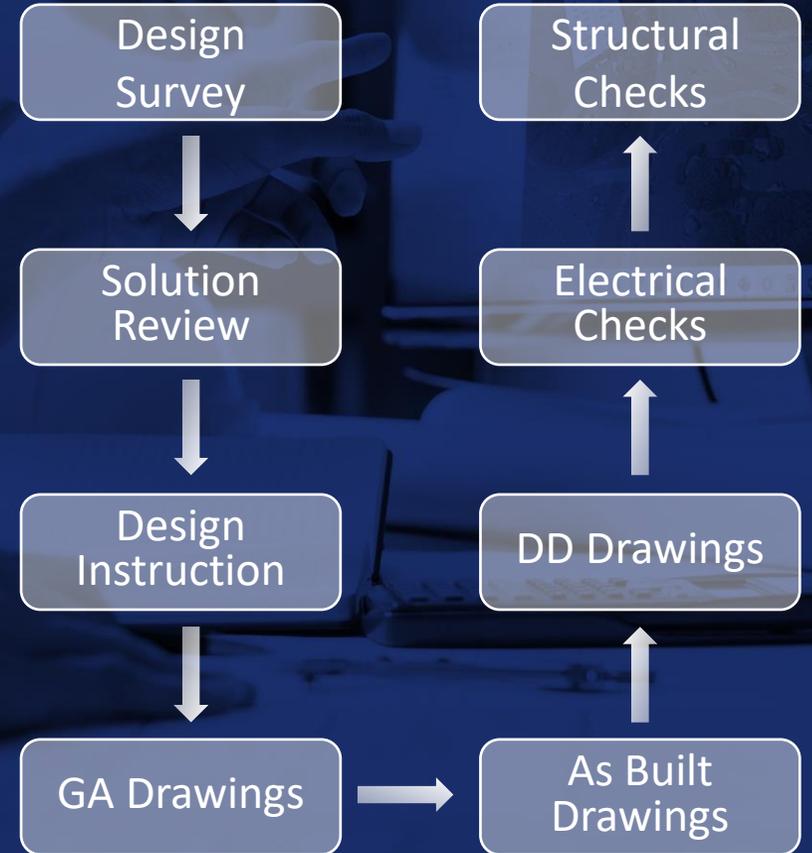
Design

Design Documents Delivered
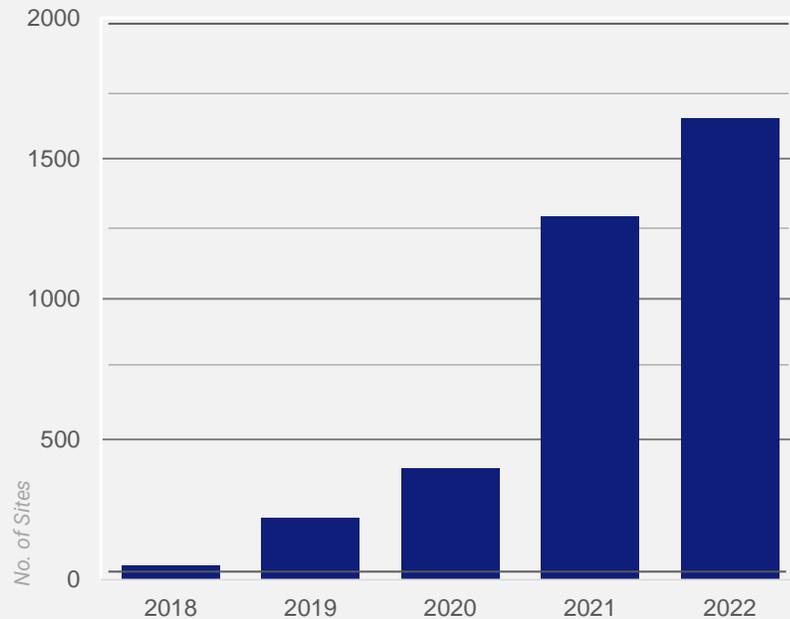
Delivered **3000 + Designs & 2500 + Survey Site visits** across all programmes over the last 3 years

Our design and acquisition departments **work together closely** to ensure GA drawings adhere to the rights and desktop analysis output

✓ Reduces unnecessary rework
✓ Speeds up delivery

Design Dependencies

Extensive in-house experience in producing electrical and structural calculations across multiple site types.

All electrical schematics completed in house in 2023 and beyond.

Knowledge and experience of all site types, antennas and steelwork deployed in UK telecoms market.

Strong contacts within relevant organisations enables us to - fast track and prioritise high priority designs.

KTL Design Services

EV Charging Design

✓ Taking the lead in the design of EV chargers including potential add-ons:

✓ **5G Small Cells**
✓ **Air quality monitors**
✓ **Wi-Fi repeaters**
✓ **Smart bins**
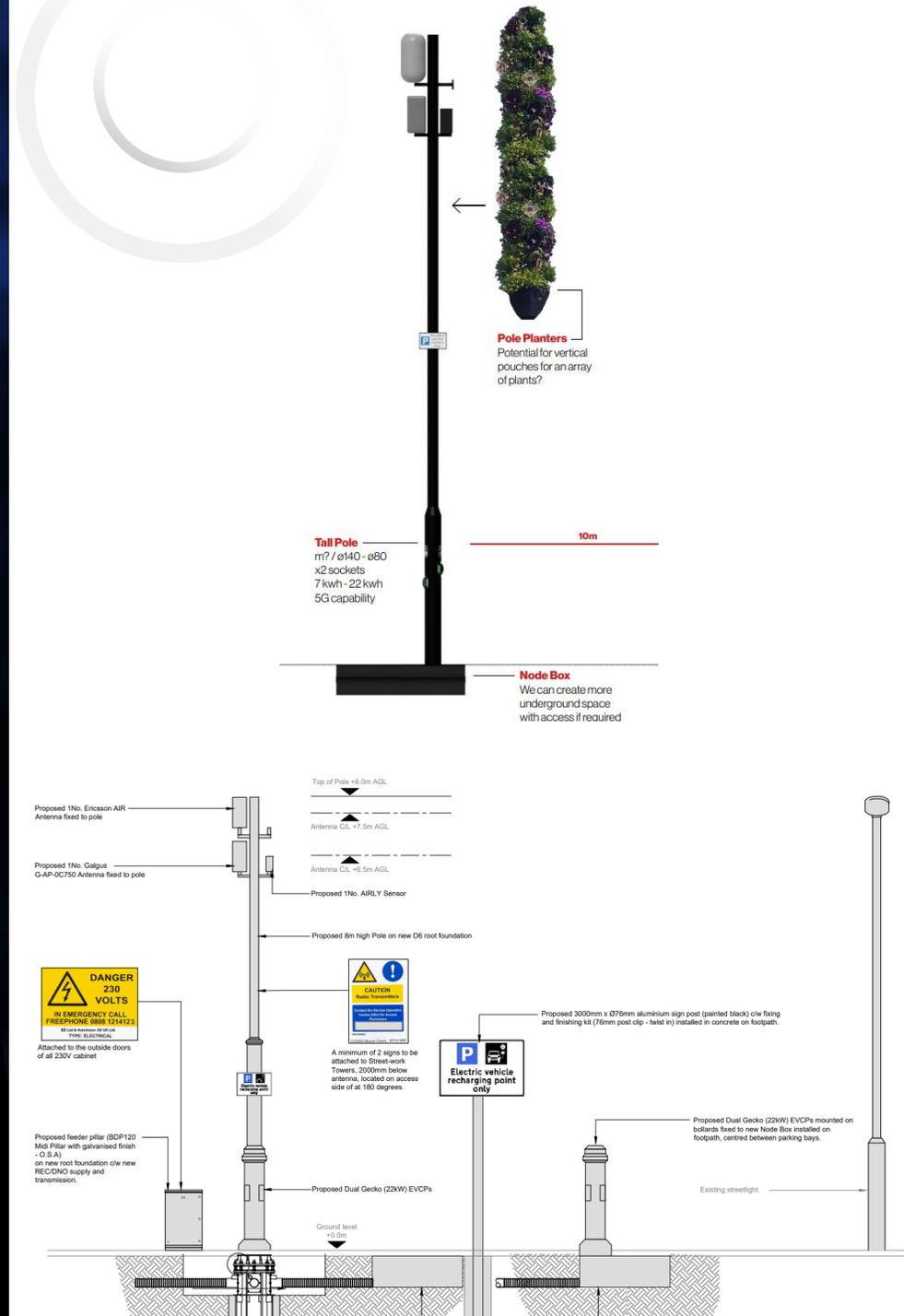
RAN A,D&C

Turnkey services are applied to **multiple projects** across **multiple clients**

Tailored to each client's requirements

Special Events		
5G Upgrades	Small Cells	
Shared Rural Network	Temp Sites	
Vendor swaps	Tech adds	Notice to Quit (NTQ)
New Site Builds	Transmission	Power Resilience

Design

Acquisition

Dependency Management

Construction

Activation

Handover

E2E Project Management

E2E Internal/External Reporting

Synergised Delivery Model
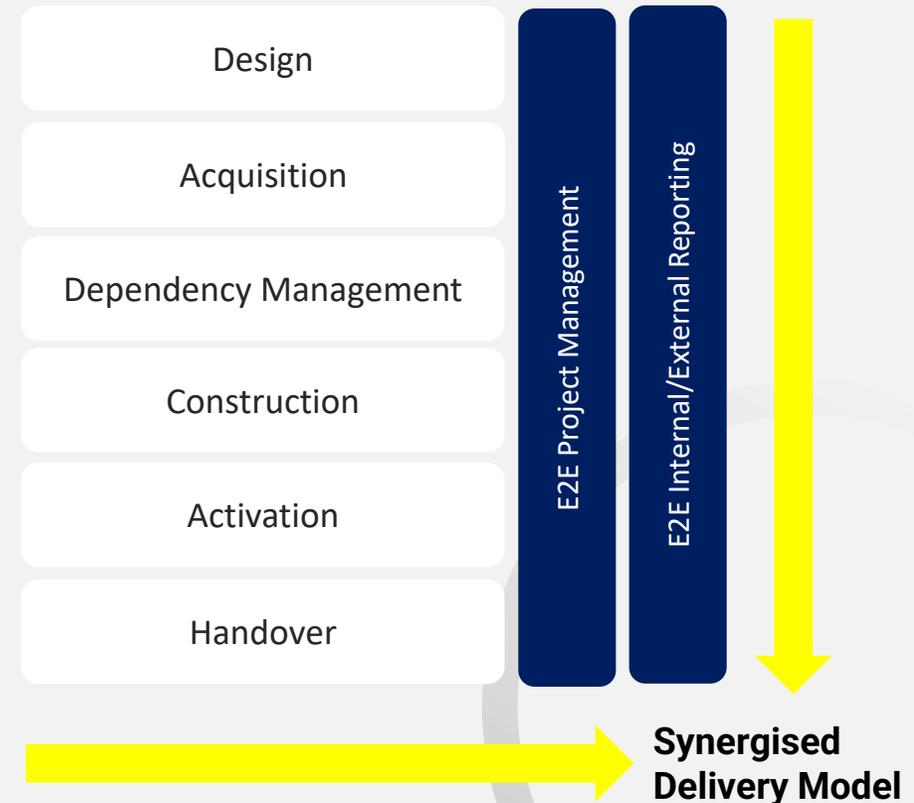
Innovation

Professional Services

- E2E Project Management
- Any Project, Any Size
- Specialised SME's
- Individual or Turnkey

Small Cells

- Small Cell Coverage Planning
- Installation and Design
- Multi-Operator/ORAN
- Acquisition, Design, Install, Integrate
- In Service Management and Operations

Inbuilding Coverage Solutions

- Inbuilding Coverage Planning
- Indoor – Small Cell – Macro Handover
- Multi-Operator/ORAN
- Acquisition, Design, Install, Integrate
- In Service Management and Operations

Network Operations

- Since 2010 KTL has provided professional services for transmission networks including Network Operations.

- KTL NOC engineers have configured microwave radio systems, IP/MPLS routers, DWDM nodes, building transmission services from legacy PDH/SDH circuits through to IP VPNs.

- KTL work daily with Huawei, Ceragon, SIAE, Cisco, Juniper equipment as trusted service providers to various operators in Ireland and the UK.

Our **Current Clients**

Network Rollout
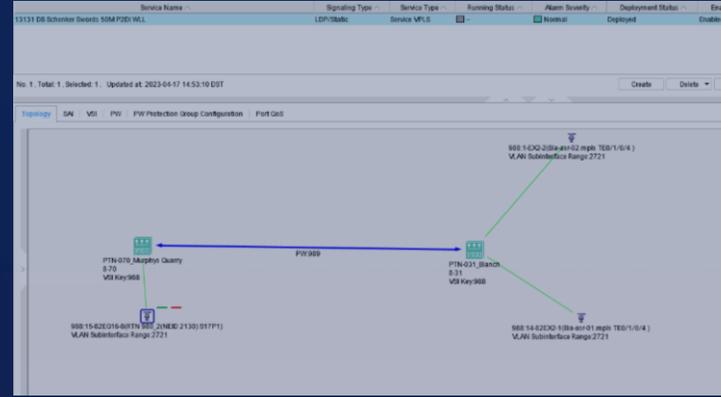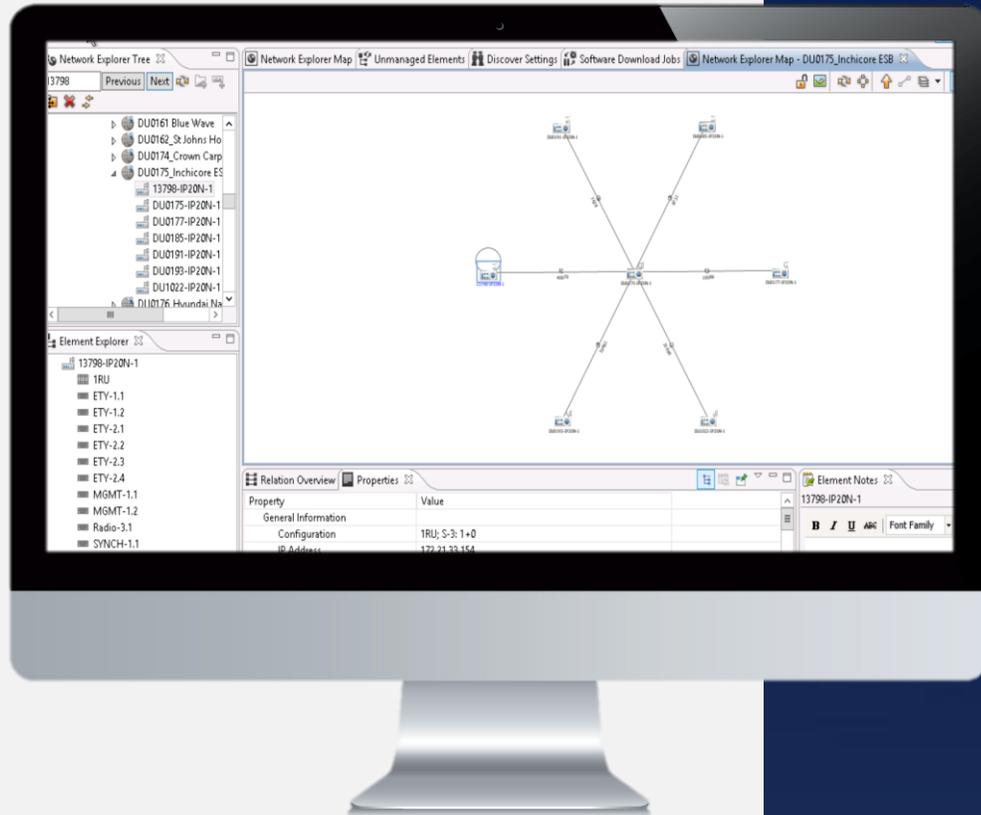
As part of our Network Operations services KTL support network rollout from specific installations through to turnkey rollouts.

Key tasks include:

- Support for field crews in the integration of new microwave links into the network to customer specification.
- Service provisioning for new RAN and Corporate Data across microwave, fibre and IP/MPLS platforms, rehosting of same.
- Configuration via GUI or scripting.

Network Support

KTL also provides 24/7 Support for network services, ensuring minimal downtime for operator services. A key example is the support of Three Ireland's Wireless Leased Line Corporate Data services, approx. 550 customer services in scope.
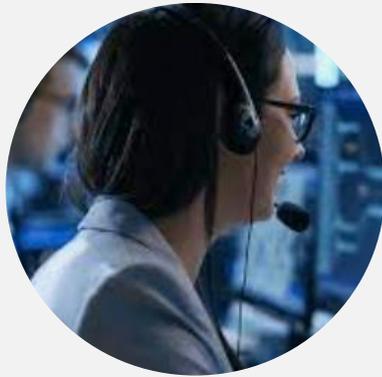
24/7 On call

✓ KTL NOC on call
✓ Incident assigned
✓ 1hr SLA for initial response
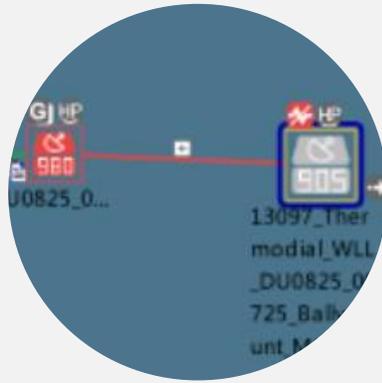
Fault Identification

✓ Is fault present?
✓ Remote fix where possible
✓ Plan for on site fix if required

Field Works

✓ Spares management
✓ Access to customer and network sites
✓ NOC and Field cooperative troubleshooting

Strict SLA

✓ Streamed SLA for efficient response
✓ Defined escalation procedures

Project & Programme Management (Tx & RAN)

25 years Experience

KTL operate as PSDP & PSCS for our clients, providing end to end solutions from Acquisition & Design to Integration & Testing.
We provide full project management capabilities to ensure projects are delivered in an efficient and timely manner.

✓ **9,000+** Microwave Upgrades

✓ **7,000+** Microwave Links Designed

✓ **4,000+** RAN Design

✓ **7,000+** RAN Build

✓ **400k+** Management Hrs

Our Current Clients

vodafone | Three.ie | HUAWEI | ESB Telecoms | EE | cellnex | BT

Full Turnkey Solution

Safety

✓ SHEQ Management System
✓ Dedicated H&S Team

1

Engineering Design

✓ E2E PSDP
✓ Technical Solutions

2

Material Management

✓ Material Procurement
✓ Material Management & Logistics

3

Delivery

✓ Programme Management
✓ Technical Project Management

4

Project & Programme Management

KTL delivers many solutions & services across Ireland and the UK

including services for:

o Planning, Design & Installation of 1+0, 1+1, 2+0, 4+0, E-band & MBL links.
o 10GB Controller Card Upgrades, Patching & Migrations.
o Link relocations.
o PSCS/PSDP & Project Management.
o Transmission surveys.
o Property applications for all Telecom site types.
o Technical Project Management.
o Full NOC Support for field crews.
o Structural survey & assessment.
o Foundation & structural design.
o 3rd party management.
o Asset management.

Methodology of Works

KTL provide specialised project and programme management services.
Our proven methodology of works and interface management:
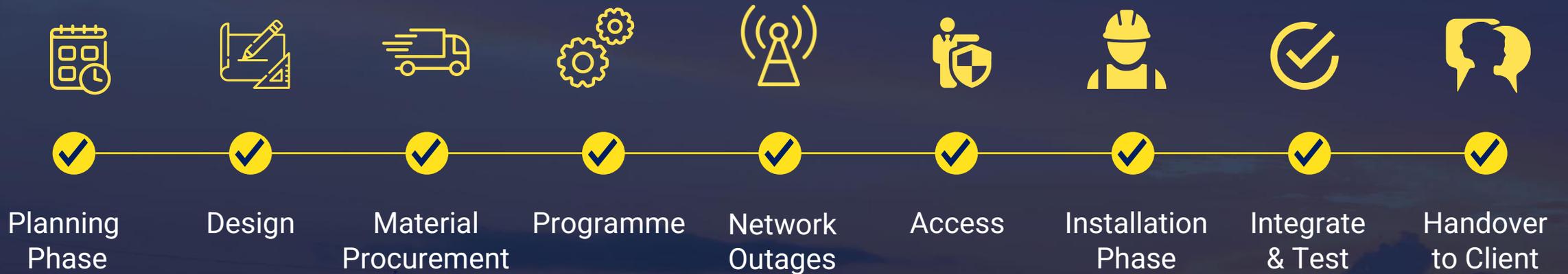
Planning Phase | Design | Material Procurement | Programme | Network Outages | Access | Installation Phase | Integrate & Test | Handover to Client

Project & Programme Management

KTL Technology, Data Capture Tools

Vehicle Check App
Annual Average Driving Score 95%

Safety Management
StaySafe App

Help manage business Project and programme management
a single, fully integrated system.

Field Service Solution
full e2e job management capabilities

IT, Cyber and ERP

Cyber Security

10,500,000

Average Cyber Security Attacks Daily

197 Days

Average duration an attacker is in a system before being detected

$4.35 Million

Average total cost of a Cyber Attack in 2022

33 Billion

Number of records that will be stolen by Cyber Criminals in 2023

Australia

KTL Cyber Posture

What have we done to protect ourselves and our customers?

1 Implemented Cyber Security Training Platform

2 Preparing for ISO:27001 Accreditation

3 Physical Security improvements to office and warehouses

4 Simulated Phishing Campaigns

5 Invested in 24/7 Security Operations Centre

6 Vulnerability Management System

Field Service

5,500

Average number of Jobs completed via our Field Service app annually

30,000

Number of Completion Documents produced in 2022

7 Million

Number of data-points captured annually

ERP Management Platform

SaaS Based ERP Platform

Single Source of Truth

Implementation Since 2018

Field Service App

Warehousing & Logistics

Project Management

Human Resources

T&A

Document Management

Finance
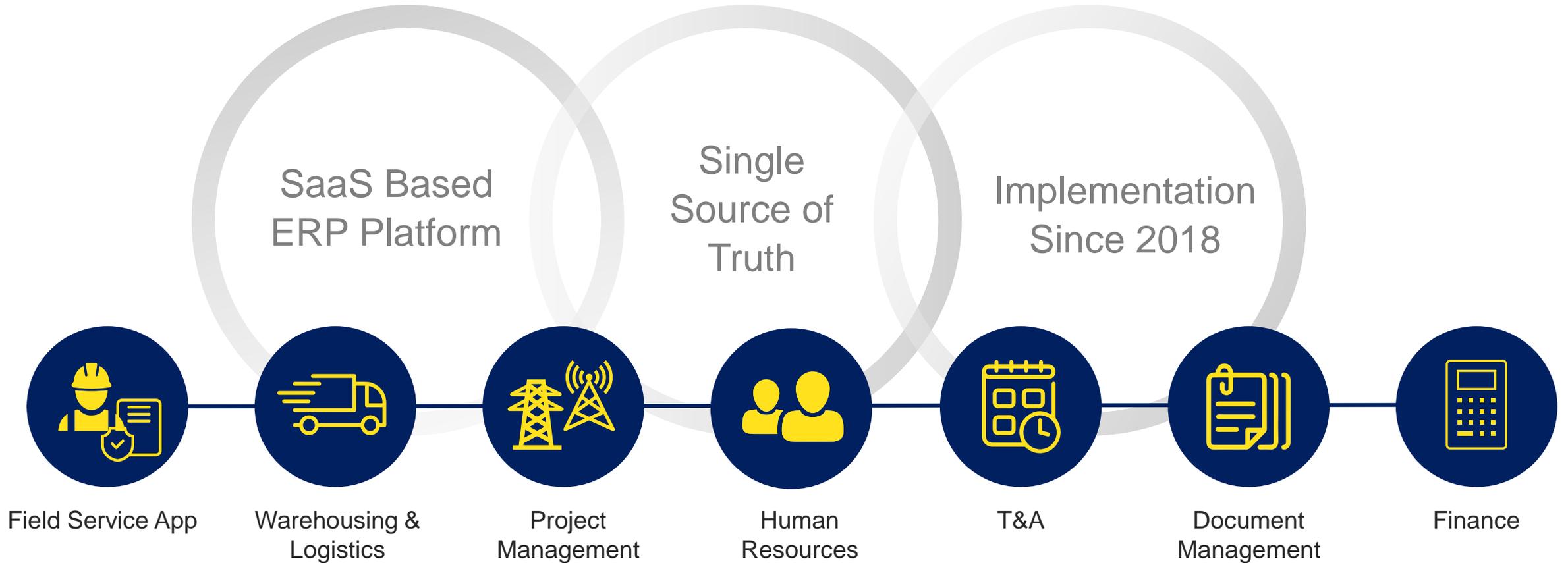
Safety, **H**ealth, **E**nvironment, **Q**uality

Did you know

5500
sites completed annually

100%
Documentation checks

30%
of sites audited

1000's
of safety observations recorded annually

Safety, Health, Environment, Quality

Our accreditations

SHEQ Bulletins

SHEQ Tools

Safety, Health, Environment, Quality

SHEQ Tools

KTL

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