



WakeCap Technologies



WAKECAP TECHNOLOGIES

SMART SITE SOLUTION

WakeCap was founded in 2017 to answer job site digitization challenges using emerging technologies. WakeCap's innovation focused on the development of a non-intrusive technology that could be implemented in existing job site operations to create a turnkey solution adding value to operational excellence.

While existing solutions required accessories and add-ons, WakeCap focused its initial sensors inside one essential piece of equipment on job sites: - the hardhat.

The company quickly evolved to provide a range of hardware solutions to support the adoption of the system in all workplace circumstances with the development of sophisticated analytics tools to provide unique insights into all job-site activity.

Enabling IoT Wireless Mesh Network Technology

WakeCap Technology enables an IoT-based solution designed to support site safety and improve efficient productivity on construction sites, manufacturing facilities, oil and gas operations and mining sites - even if they're underground. We enable a site network of integrated sensors to connect the job site with a proprietary, patented wireless mesh network technology to provide an in-depth understanding of all site activity.

The implementation of the WakeCap solution has provided insights for change management that are simply changing the way we build.



WAKECAP TECHNOLOGIES

RTLS SMARTSITE

A smart sensor, powered by a long-life battery that lasts for up to 18 months, replaces the ratchet knob of the hardhat. Alternatively, the WakeCap fob is used for equipment tracking or when a hard hat is not required. There are no wires at all and to the wearer, there's no difference to wearing a standard hardhat.

The mesh network identifies the entire site, both indoor and outdoor, including the underground basement and high-rise levels of the site. As the site expands, or new floors are added, we simply scale the deployment by increasing the number of anchor sensors at the site to expand the mesh network.

Capture Real-Time Accuracy

With the network in place, the Wakecap specialized hardware provides the capability to capture the continuous geo location of each wearable or fixed sensor – with real-time accuracy. Each data point is seamlessly transferred to a cloud-based server for security and integration with our system.

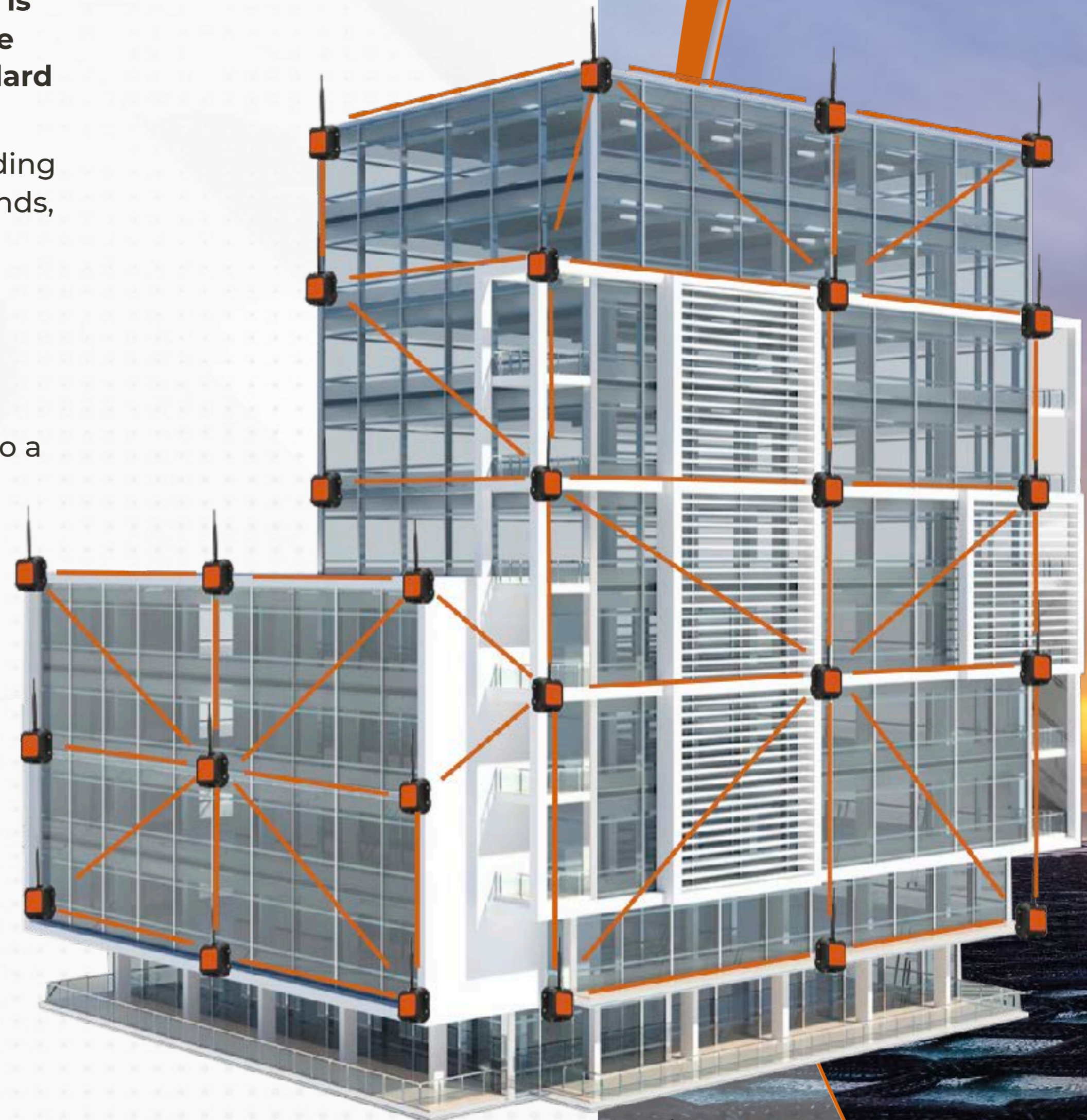


Network Anchor



FOB

Hard Hat Sensor



Site Network



OUR VERTICALS

Construction



Oil & GAS



**Industrial
Manufacture**



WHAT WE DO

Connecting Work Site

Gain immediate insights of worksite operations and visualise the workforce without disruption of the workflow



Real Time Reports

The WakeCap Dashboard provides detailed reports for immediate access to REAL site activity



Quantify Productivity

Track and analyse workforce to understand potential bottlenecks, issues and inefficiencies



Automate Attendance

Skip manual head counts and tedious paperwork with automated data collection for all site workers



Integration

Integrate Wakecap data with existing project management software to streamline project management



SIMPLIFIED Deployment

The deployment of the WakeCap solution is a seamless process without interruption to the site operations, providing a digital mapping of all operational activity. The deployment of the system typically takes 2 to 3 days.

With the deployment of the site technology we now have the capability to analyze the site data to provide operational insights that are easily viewed and managed with our customizable intelligence dashboard to track the performance of even the most complex of construction sites.

Operational Insights

This analysis provides supportive insights for the implementation of lean management controls, improving site safety, and productivity, to support construction site operations for greater efficiency and cost reduction.

WakeCap Innovation

The Wakecap solution has been designed to withstand the ruggedness of a construction site. A purpose-build system that expands as the site expands, allowing the site to scale up and down as the site progresses – for both horizontal and vertical site development.

WakeCap is designed for easy deployment to any site without site disruption.

With consideration to ensuring a long battery life of all components providing easy maintenance.

Ease of Deployment.

A turnkey solution, designed for simplicity.

No power or internet infrastructure is required.

No handheld devices and no extra devices to carry that are non-native to the workforce.

No project timeline disruption irrespective of workforce size or the number of subcontractors.

No Training or on boarding is required, saving time and money; hard hat assignment takes less than a minute and is part of the project safety induction.

Ease of Maintenance.

The battery life of hardhat assets is 1.5+ years.

The battery life of Anchors is 4 years.

A saving of time and money as similar solutions have a battery life of only 8 hours or a couple of weeks at most!

Live and predictive maintenance interface to monitor all hardware.

Remote support for anchors and gateway with firmware updates.

Intuitive Dashboard

Customized user experience with tailored KPIs and reports.

Ability to track the project data you want, with live and historical analysis.

The ability for different stakeholders to track different KPIs.



Value of Site **TRANSPARENCY**

Most construction professionals identify the need for site transparency as a core requirement for project success. The lack of transparency at the site affects communication, quality, efficiency and the general inability to gather true project facts to keep the site on track.

Knowing what's happening on-site - at any given time - has never been so easy as it is with the WakeCap solution. With real-time reporting, WakeCap provides the means to understand site progress - with ease - 24/7.

WakeCap improves site transparency allowing you the ability to guide project change for improved performance.



With WakeCap Integrated
to your construction process you're
assured of the capability to:

Automatically capture project dynamics to review the project's overall performance.

Analyse a specific site task or project stage.

Understand site labor intensity to assist with labor cost control.

Identify time wasting activity - like inefficient sign on and sign off procedures or hoist utilization.

Improve subcontractor coordination.

Accountable project activity reports.

Provide evidence to support site variations with documented analysis of hours worked or the real cost of project delay.



SITE DIGITIZATION

WakeCap improves site productivity through digitization to streamline business processes, measure labor performance, and reveal insights hindering continuous operational improvement. We have the capability to digitize what you 'already know', and as is mostly the case – 'what you don't know' to identify what is impeding the project's progress.

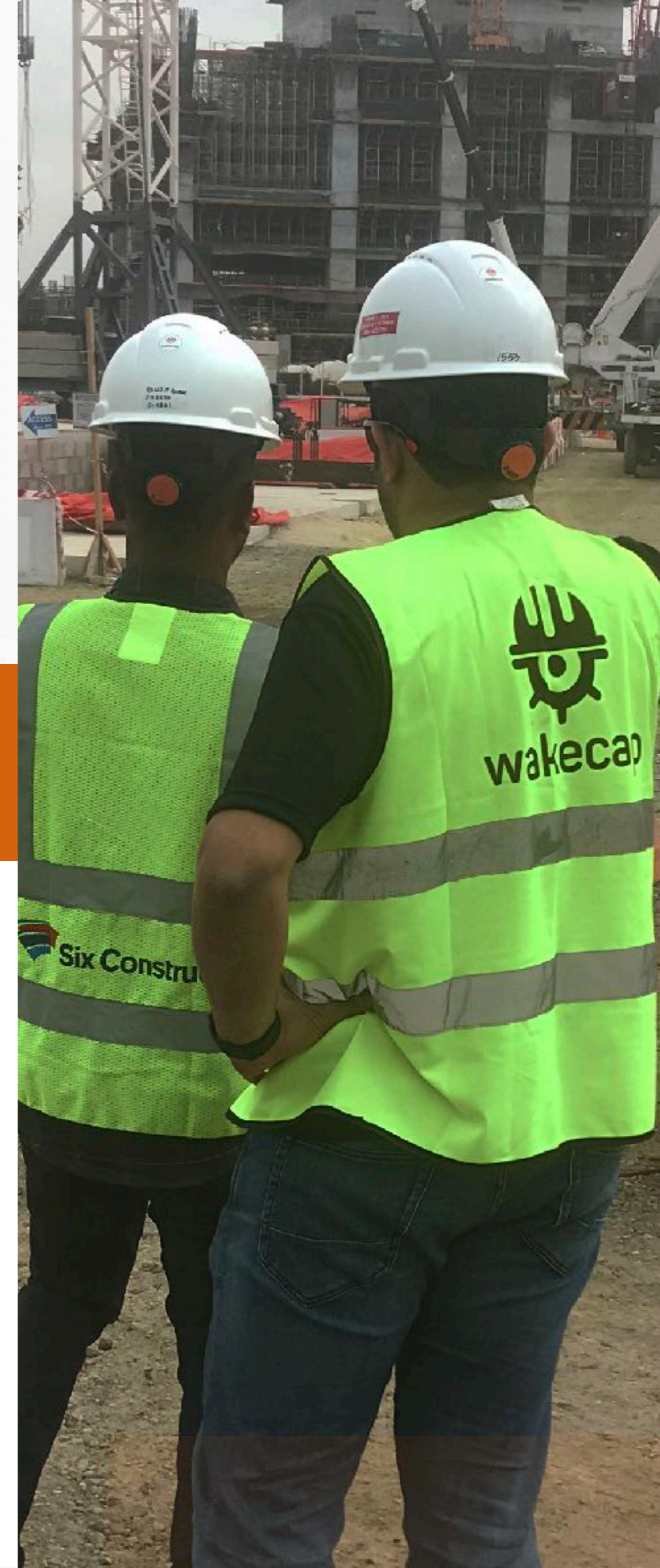
With WakeCap we have the ability to implement time saving solutions for a host of standard work processes including:

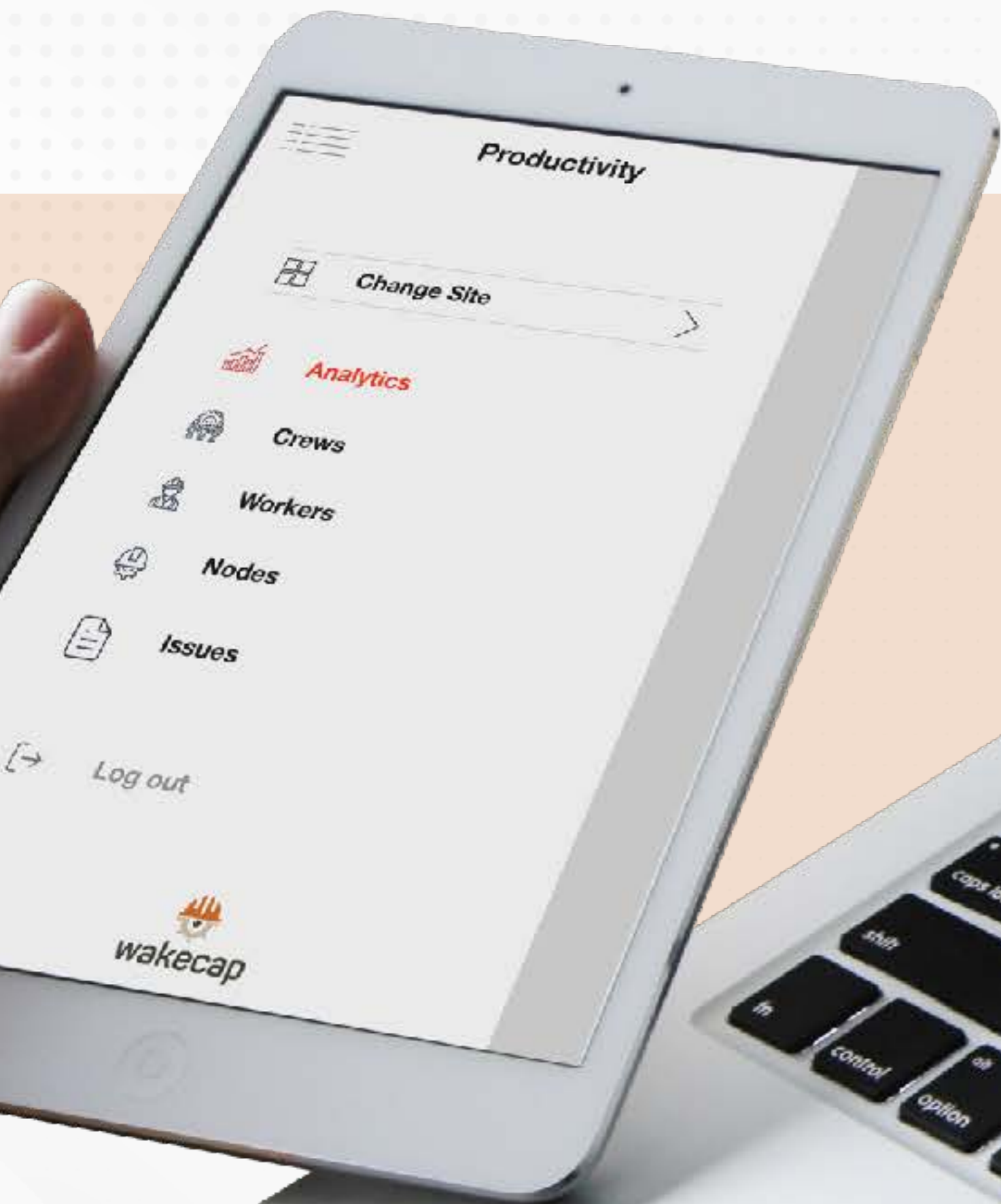
Administration of attendance & timekeeping - automatic logging of site attendance, saving hundreds of hours per week in admin work.

A centralized source of real-time, accurate information improves your communication and collaboration.

Key performance indicators that are impossible to manage with a high-volume workforce.

Workforce exact site location - in real-time to validate working hours, employee late arrivals and early leavers, time spent getting to the assigned work areas, time spent in productive and non-productive zones, subcontractor performance & progress, and historical work sequence of all performed activities.





WakeCap

KEY FUNCTIONS SUPPORT



Production Tracking

- Monitor daily production rates and quantities
- Chart daily production rates against targets
- Workforce allocation management
- Labor hours/cost tracking
- Project schedule & budget tracking
- Track cost accounts and deviations from planned



Timekeeping & Payroll

- Quick workforce entry and exit
- Time & attendance control
- Hours on productive & assigned zones
- Late arrival / early leave reports



Safety Management

- Worker passport for training and certification compliance
- Real time site monitoring and safety incident alerts
- Live tracking of emergency evacuation and automated head count.





DATA Validation

Being able to validate results (i.e. yesterday's compared with today's) is a powerful feature of the WakeCap solution. The historical record is vital to understanding what requires change - comparison of current results provides assurance with the decisions you make for contribution to the right strategy for improved operational efficiency. Site validation provides the means to measure the impact of your decisions in real-time to see the positive or negative impacts of the labor movement, logistics, scheduling, and time through real-time analysis.

Validation supports decisions that are based on fact not rumour to efficiently monitor KPIs to optimize site progress and customize your response to meet specific project requirements.

Gain a true understanding of labor hours spent on site, active and non-active hours - for a reported time period, zone or specific crew activity.



REAL REPORTED HOURS

REVEALING WHAT YOU DON'T KNOW

The WakeCap solution reveals the real facts for site labor - time and activity - providing a **TRUE** comparison of planned vs. actual.

Make informed - data-supported decisions and identify problematic patterns you never knew existed at the site, patterns that generally impede job-site performance.

Knowing the true nature of the site activity provides the power to implement site optimization measures to ensure the right worker is at the right work front, at the right time, for the right purpose.



Technical Specifications

Reference	Specification
Battery Life - Hard Hat Sensor	12 - 18 months
Battery Life - Anchor	4 Years
Gateway	Direct Power
Network - Hardhat and Anchor	Independent Wireless
Network - Gateway	Requires Internet Access
ATEX Approved	Entire System
Explosion Proof	Yes
Network Frequency - Low powered mesh network	2.4 GHz
Transmission Range (Anchor to Anchor)	300 - 700 meters
Transmission Range (Anchor to Tag)	75 - 300 meters
Location Accuracy	Under 5 meters
Sensor and Anchor Casing	IP67 Rated





WAKECAP SMART SITE SAFETY

WakeCap provides a historical data trail of worker location to monitor and record if workers were at the right place, at the right time. Our smart sensor is built into the safety helmet and our system identifies the time and position of each sensor throughout the entire site.

The site data points provide a digital footprint to help you reinforce site safety compliance, and review site congestions and activity providing insights suitable for emergency training and planning.

Real-time Monitoring of Site Incidents

The WakeCap site network monitors your site to provide site safety assurance and improved compliance. The WakeCap Digital Passport application provides access to all staff related information, daily work orders, certifications and required training.

Other Safety Features

Site evacuation is supported with a notification sent to each hard hat, alerting the need for site evacuation, if required. We report mustering activity, identifying missing employees who have not reported to the mustering area or zone.

The WakeCap technology has been developed to provide a host of other site safety solutions that will be released in the future.



SUPPORTING

- SAFETY COMPLIANCE
- SITE EVACUATION
- WAKECAP PASSPORT APP
- SITE MONITORING



aramco

DIGITAL PASSPORT

Powered by WakeCap

Immediate Access to

- **Personnel Data**

Access personnel information on site with a simple tap to the WakeCap NFC reader built into the WakeCap hard hat sensor.

- **Training & Certifications**

View training and certification details of each site worker to identify certified eligibility for each site task or activity.

- **Observations**

Review automatic site incident reports for each worker and safety warning status, with direct integration to ARAMCO SafeLife.

- **Track Task Eligibility**

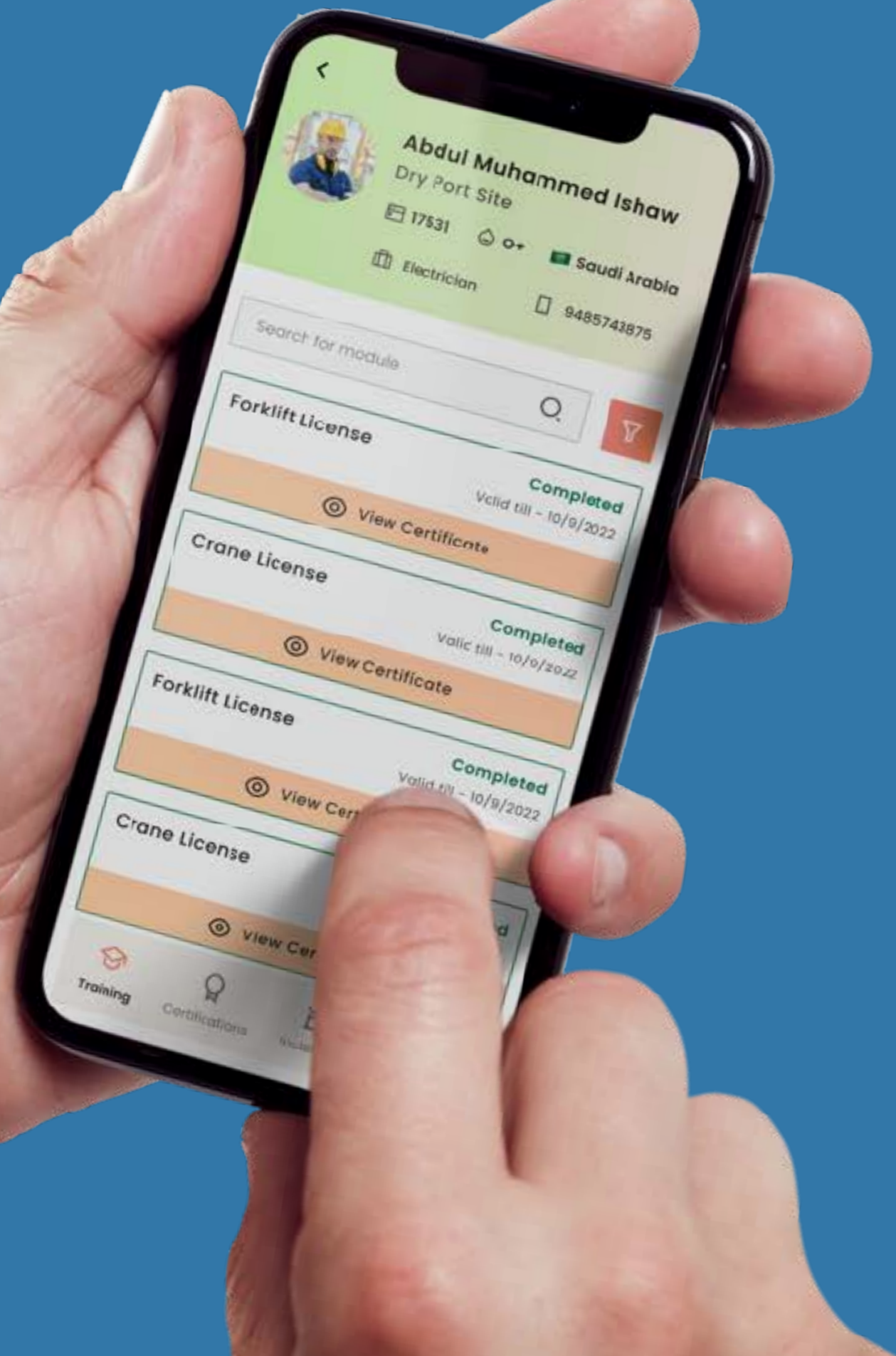
Monitor assigned tasks with association to training and certification eligibility for each employee.

- **Medical History**

Review medical history, blood group, allergies, past surgeries and all other non-confidential records.



The WakeCap Digital Passport application provides access to all staff related information, daily work orders, certification, and required training.



Profile

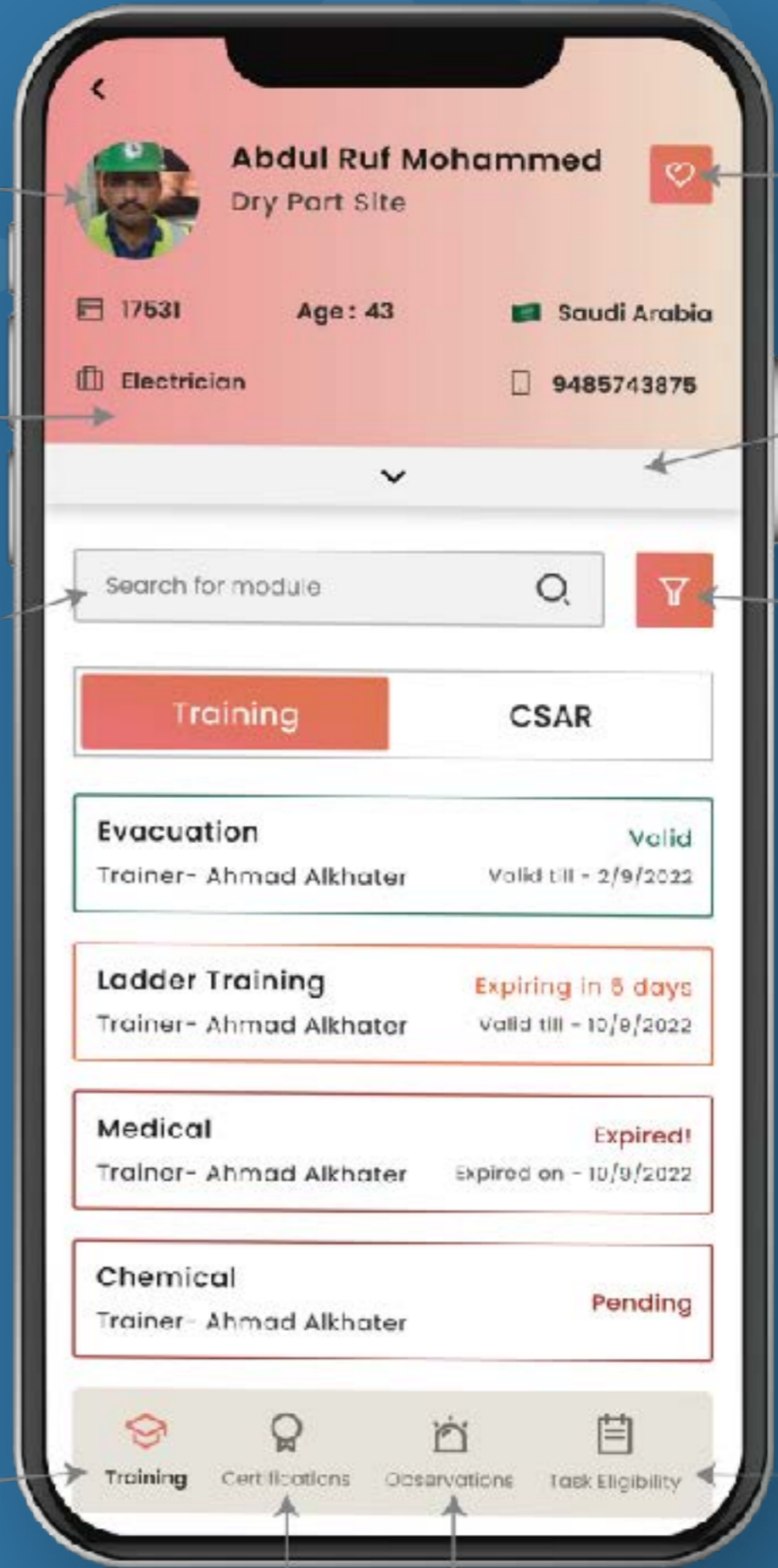
Eligibility Signal
Green - Eligible to be on-site
Red - Not eligible to be on-site

Search Bar

Training
Type and Trainer
Status Validity
Expiry Date (& days remaining)

3rd Party Certifications
Forklift license, crane operator certification etc.
View/download certifications

Safety Observations
List and view safety observation reports
Track official warnings



Medical History
Blood group, allergies, past surgeries etc.

Contractor Details

Filter

Smart Warnings
Algorithm driven recommendations for user notification and action

Task Eligibility check
Automated check if valid training and certifications exist to perform assigned tasks

WAKECAP SMART INTEGRATION

Connected construction is essential to automate complex workflows, improve operational efficiency, and facilitate collaboration. Today's leading construction companies rely on strong integrations and connected solutions to allow seamless data flow.

WakeCap provides a connected worker solution to monitor site activity with the capability to provide extensive site data to support many other construction design, planning, and installation technologies. Our data enables digital integration for site monitoring, analysis and planning

We continue to expand digital support with collaborations and partnerships with other digital technologies to provide a range of value-added features – all connected in varying degrees with the WakeCap network, sensors, and dashboard products. Alternatively, the WakeCap data is provided to other 3rd party applications for additional service integration.

BIM

Building Information Modelling

WakeCap's BIM integration provides site digitisation for analysis and record of all labor activity. Analysing project workforce, location, time, and progress to complement site management and safety control.

AWP

Advanced Work Packaging

AWP is a planned, executable process that encompasses the work on an EPC project, beginning with initial planning and continuing through detailed design and construction execution.

WakeCap AWP provides the framework for productive and progressive construction, with integration to the WakeCap site solution for digitisation of the project execution.

CANARIA

Heat Stress Monitoring

WakeCap, in collaboration with Biodata bank provides integration of Canaria a site wearable that intelligently adapts to each user and warns them in advance of a heat risk.

The alarm rings to keep you safe. You can take the right action at the right time: hydrate, and cool off in the shade.

VIDEO AI

Site Security Monitoring

Video Ai is a solution designed to detect workers entering a restricted zone in real-time to provide real-time alerts for improved site safety and security.

Video Ai with WakeCap integration provides suit coverage for the entire deployed site with total surveillance capability.

BIM

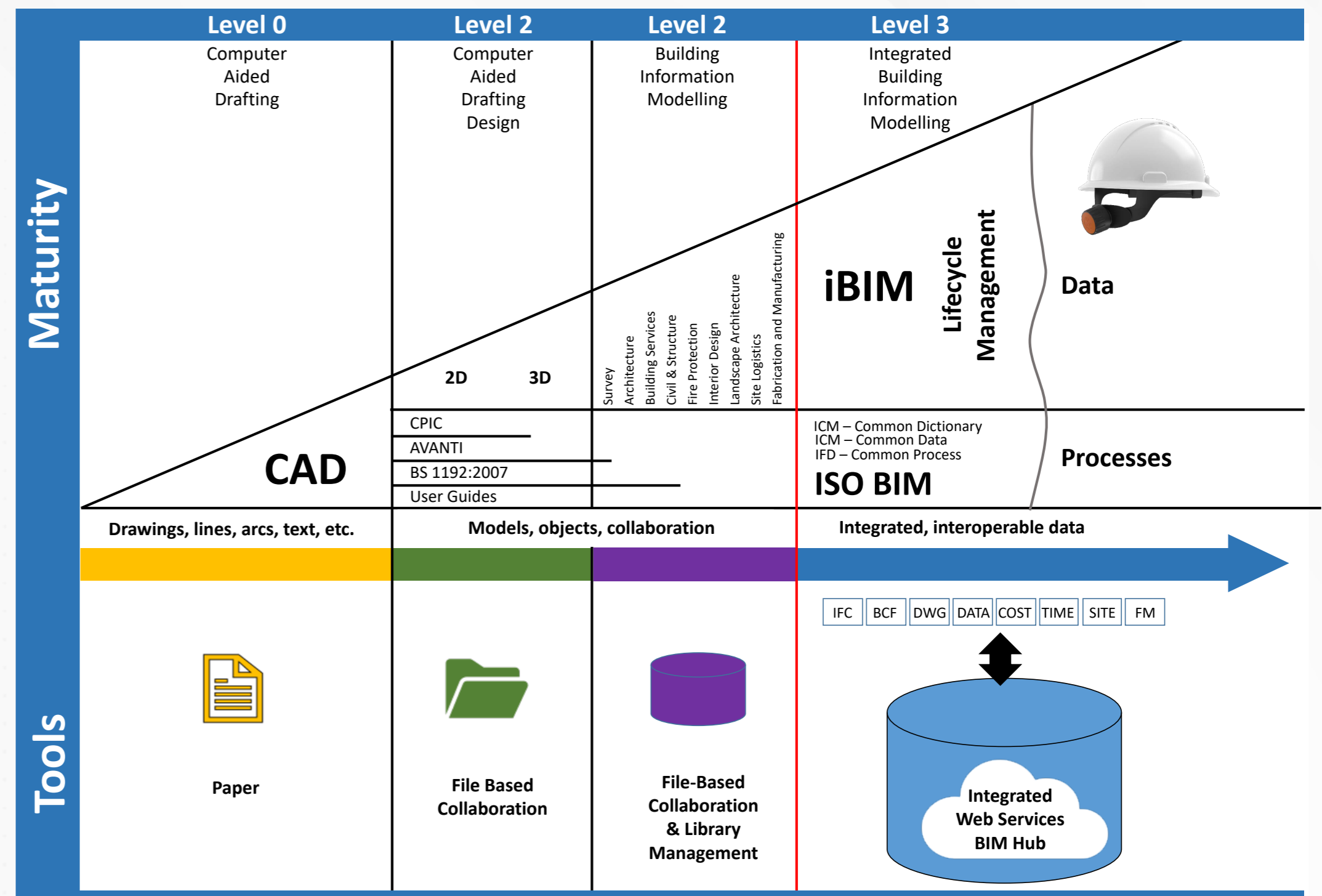
Building Information Modelling

The WakeCap BIM Integration provides real-time resource management and project controls.

BIM is a process of building a geometrical 3D model with embedded information to allow detailed management of different dimensions during the project life.

BIM is a coordinated digital description of every aspect of the built asset. BIM is developed to include a combination of information-rich 3D models and associated structured data for design, products, project execution and handover information.

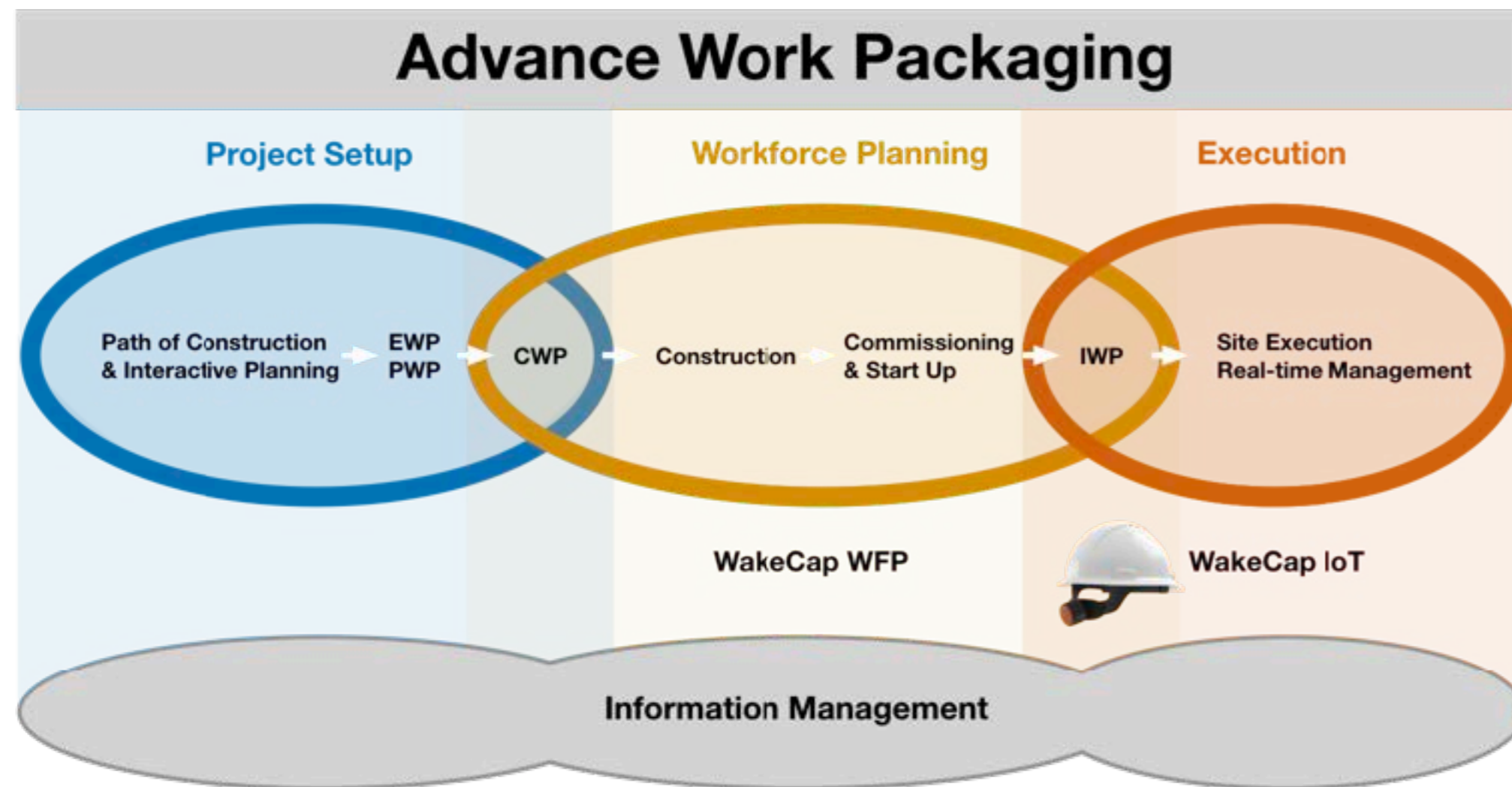
BIM provides an environment for collaboration and coordination between design offices, allowing the owner to view and review the project design. BIM provides smooth transmission for the project from conceptual design to detailed design, construction activities, handing over and asset management.



AWP

Advanced Work Packaging

Advanced Work Packaging is commonly known as both the overall process of work packaging for projects and also as a title for the activities that take place at the start of projects, that align Engineering Work Packages with Procurement Work Packages and Construction Work Packages.



Align Engineering & Procurement

with Construction schedule

Project Detailing

for all construction activity

Constraint Management

to assure real open fronts

Project Collaboration

between construction and control office for accurate feedback and proper mitigation

Directing Site

toward laminar workflow

Detailed Project Tracking

for improved productivity rates

High Project Efficiency

utilizing the resources for the entire project

Design to Completion

proper and systematic completion and

CANARIA



HEAT STROKE

PROTECT ALL EXPOSED WORKERS

CANARIA IS THE FIRST DEVICE TO
INDIVIDUALLY PREVENT HEAT STROKE



Patented



Tested & Validated



Adopted



Start It!

Once started, the device works autonomously throughout the summer without the need to turn off, recharge it, or pair it



Wear It

In contact with your skin, the device synchronises with your international temperature and monitors changes in real-time



Hear It

When an early-stage hyperthermia is identified, a sound and visual alarm are triggered to warn the user of a heat stroke risk.

VIDEO AI

Monitoring workplace safety to prevent accidents by mitigating risks.

Our proprietary software analyses safety data to send real-time alerts when violations are detected. This can be applied in several key industries.

- Easy integration and scalable
- Reduce workload and increase work efficiency
- Increase safety culture in the workplace
- Continuous and real-time
- Round -the-clock automated system
- Detect violations 24/7 with real-time alerts
- Video data analytics

With machine-learning, our analytics software is optimized over time. It can be easily translated to different industry needs e.g. oil & gas, construction, maritime, manufacturing and warehousing.



Improve Workplace Safety In High Risk Environments



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