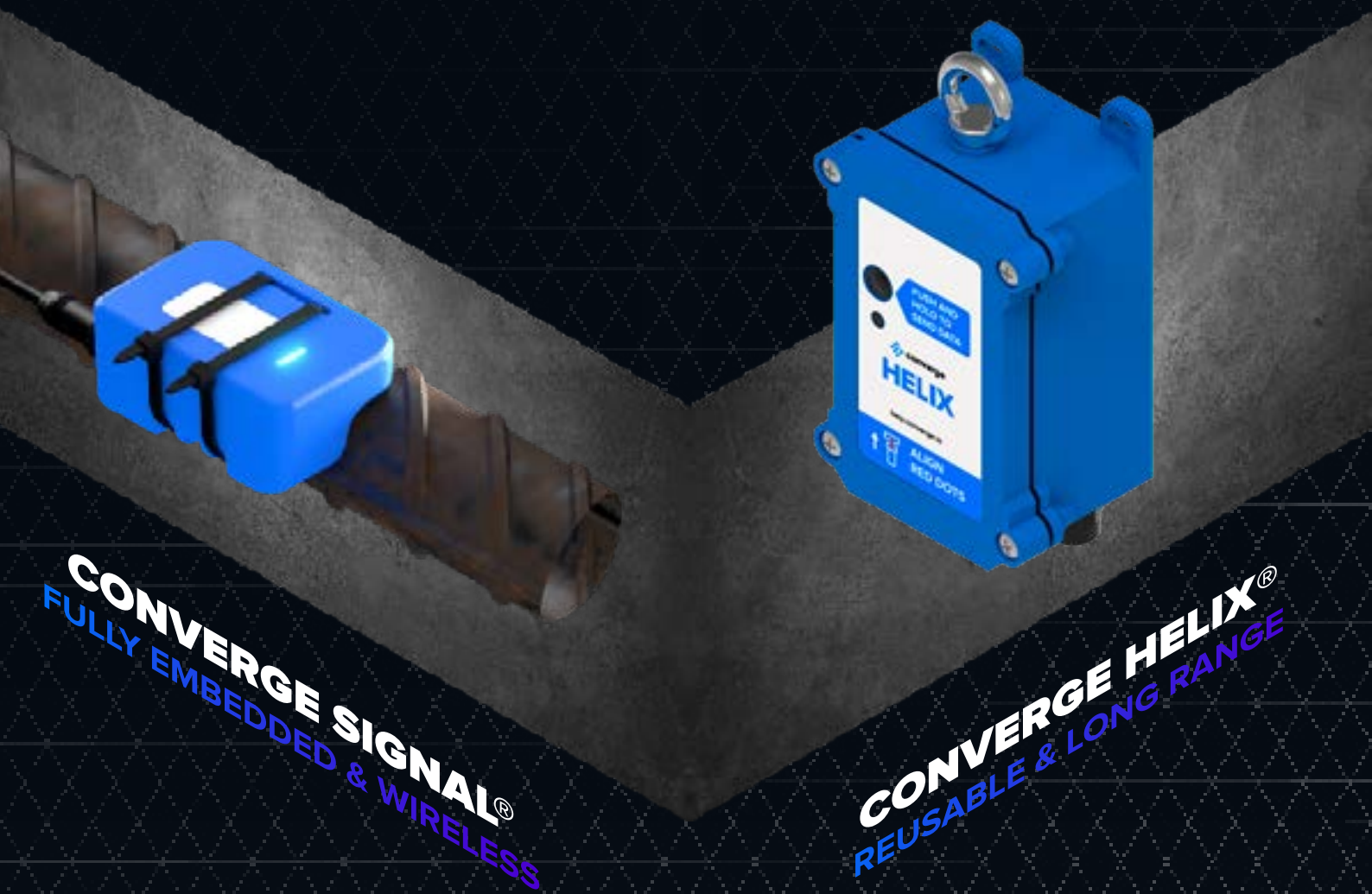
HAUCON

converge

CONCRETE MONITORING FOR EVERY JOBSITE

GO FULLY WIRELESS OR
GO REUSABLE LONG RANGE



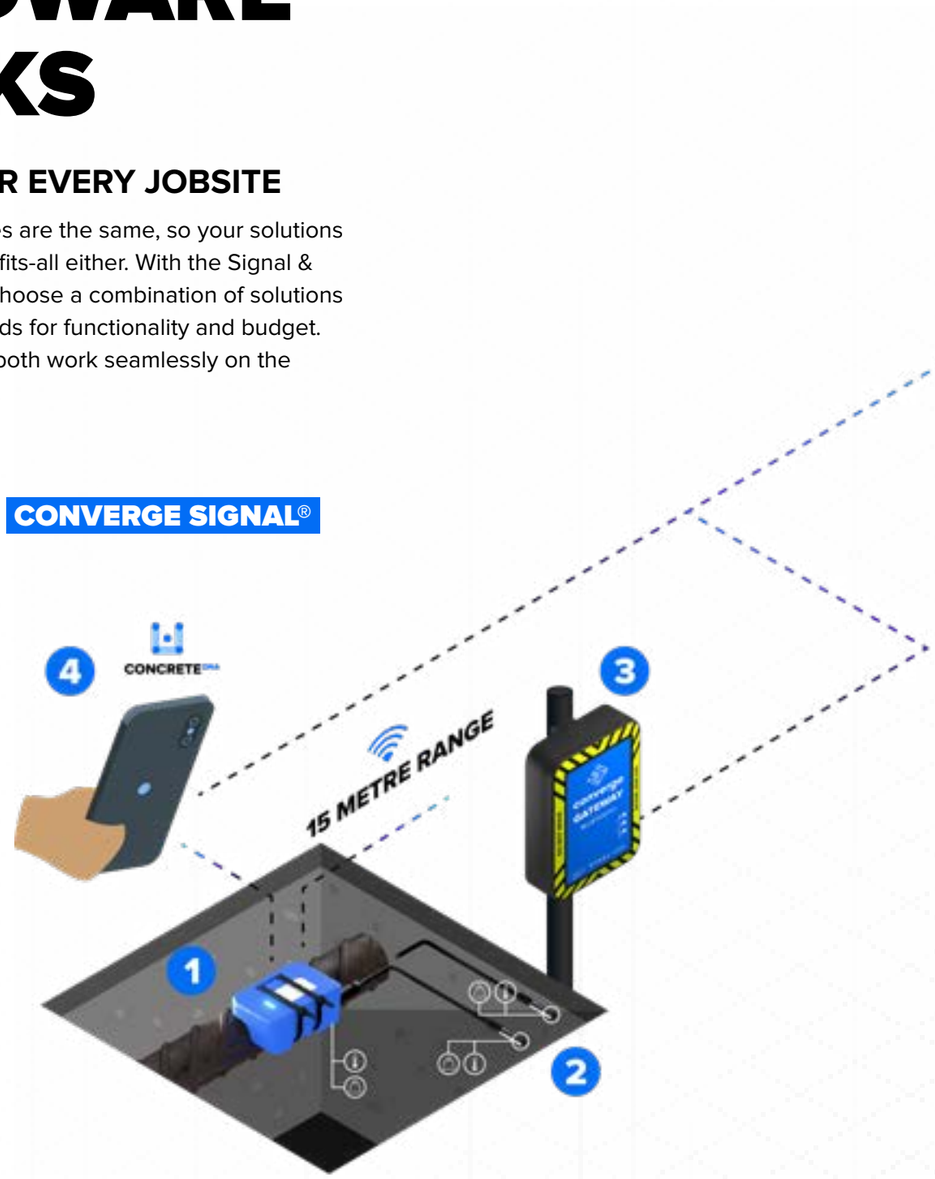
CONVERGE SIGNAL®
FULLY EMBEDDED & WIRELESS

CONVERGE HELIX®
REUSABLE & LONG RANGE

HOW THE HARDWARE WORKS

SOLUTIONS FOR EVERY JOBSITE

No two construction sites are the same, so your solutions shouldn't be a one-size-fits-all either. With the Signal & Helix systems you can choose a combination of solutions that fit your specific needs for functionality and budget. And the best part, they both work seamlessly on the ConcreteDNA® platform.

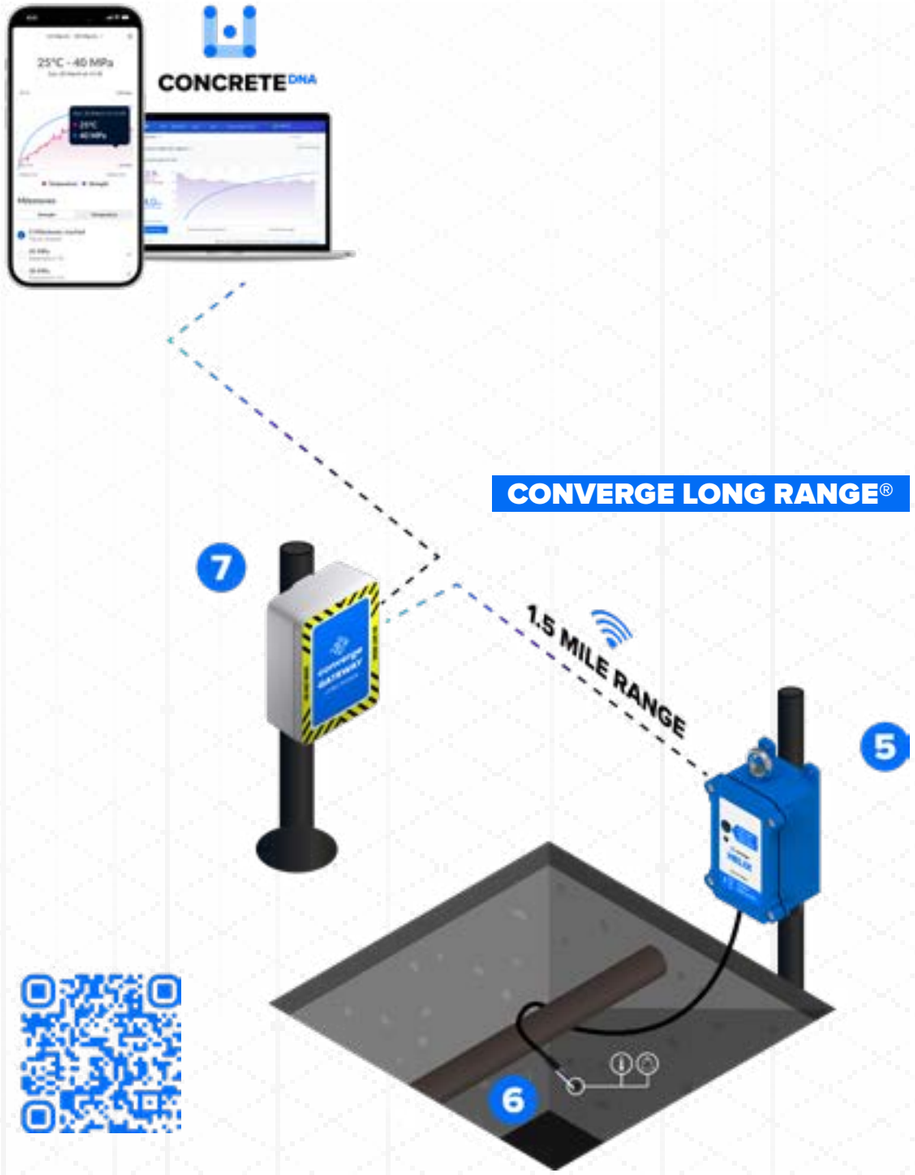


CONVERGE SIGNAL®

REAL TIME TEMPERATURE AND STRENGTH MONITORING

- Embedded solution
- 15m range
- Collect data from multiple points
- Real-time temperature and maturity data on the go

1. **Signal Sensor +™**
2. **Multi-Probe Thermal Tail™**
3. **Converge Gateway Bluetooth™** (real-time data collection)
4. **ConcreteDNA® Mobile App** (manual data collection)



CONVERGE LONG RANGE®

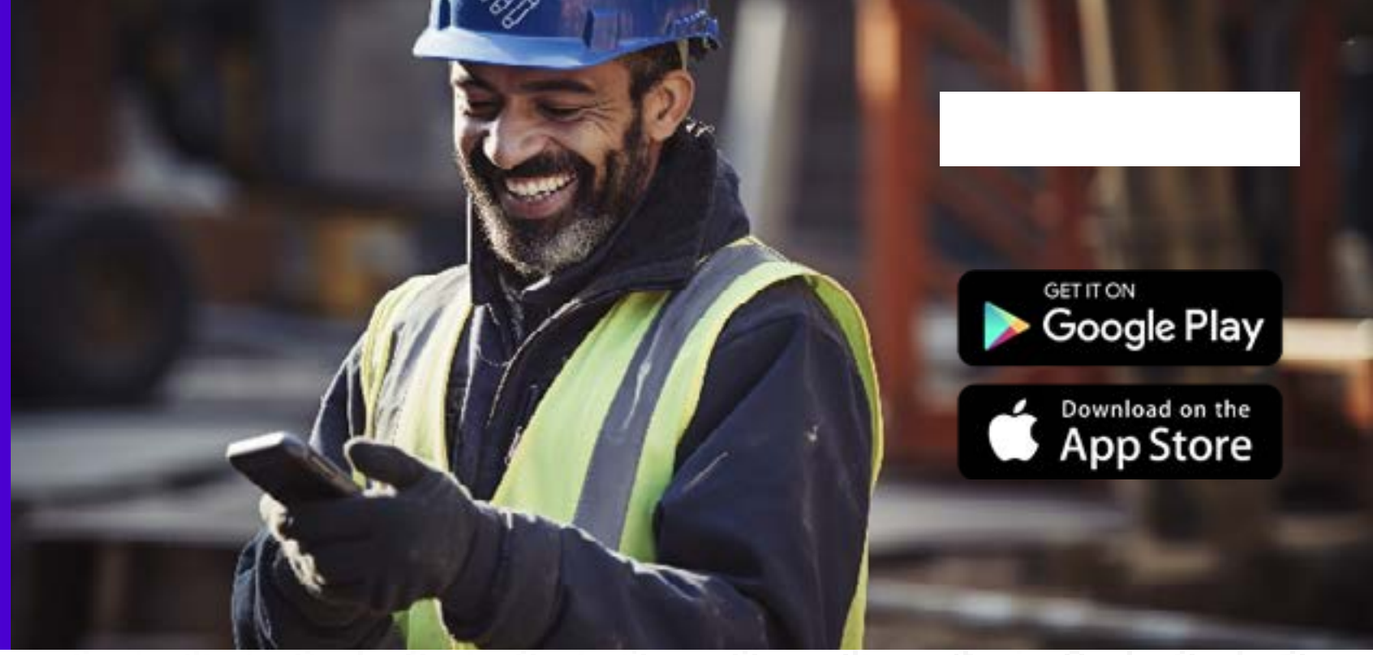
ENDURING REUSABILITY AND LONG RANGE THAT MAXIMISES VALUE

- Non-embedded solution
- 1.5 mile range
- Reusable Helix Node
- View real-time data using the ConcreteDNA® app

5. **Helix**
6. **Multi-Probe Thermal Tail™**
7. **Converge Gateway Long Range**
   Can also be used for Signal Long Range Sensors

HOW THE SOFTWARE WORKS

NEXT LEVEL CONCRETE INTELLIGENCE, DATA MANAGEMENT AND MIX SELECTION



PROJECTS FINISH FASTER

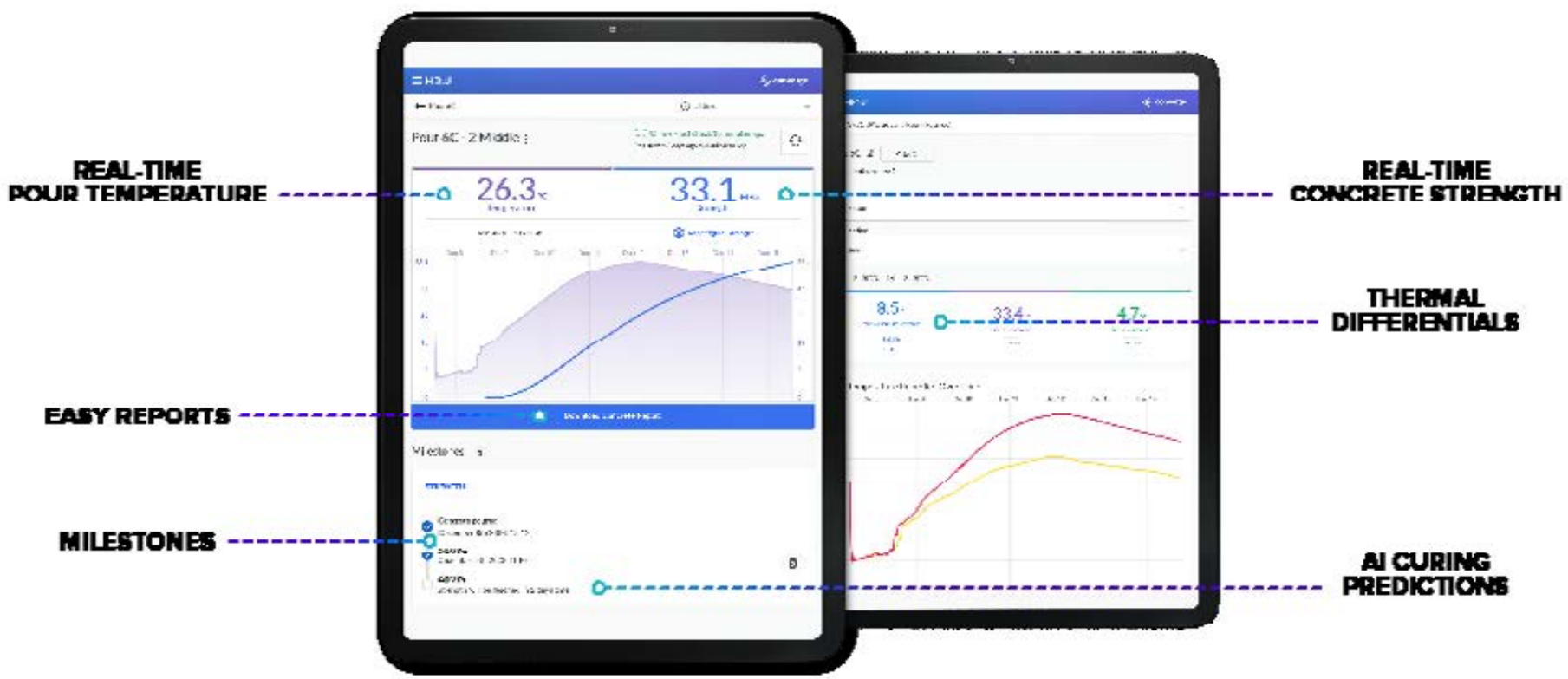
When concrete is on the critical path of your construction schedule, can you really afford to wait for lab results?

Get continuous, accurate, and real-time strength and temperature data, ensuring you always have the most up-to-date information at your fingertips.

Use real-time monitoring and AI predictions on concrete strength and temperature to strike formwork up to 40% faster.

- Make faster, safer decisions on post-tensioning, formwork removal, road openings, and more.
- Ensure project milestones are met by reducing wait times associated with traditional third-party lab testing.
- Monitor temperature differential limits to avoid cracking.
- Minimize safety risks associated with premature formwork removal or post-tensioning.
- Provide an audit trail for quality assurance and safeguard against potential disputes with irrefutable data on in-situ maturity testing.

CONCRETE DNA



converge | LAING O'ROURKE

EVERTON FC

LIVERPOOL, UK (FEBRUARY 2022 - PRESENT)

> “At Everton we’re using low-carbon mixes that have longer strike times. We can claw back efficiency thanks to Converge’s embedded sensors, which provide us with real-time curing data, rather than wait for cubes to return from the lab.”
>
> **Gregory Deane**
> Senior Engineer, Laing O’Rourke

SUPPORTING THE REDUCTION OF EMBODIED CARBON AT EVERTON STADIUM

Laing O’Rourke was pouring a number of different concrete mixes at the new Everton FC stadium which consist of a higher volume of GGBS (ground granulated blast-furnace slag). GGBS is a low-carbon cement alternative that can be up to double its 28-day design strength after 10 years of curing. The drawback, however, is that the cycle times are longer.

By using embedded Converge sensors in the slabs, and analysing real-time maturity data, Laing O’Rourke are able to claw back this time by striking falsework at the earliest opportunity, without delay.

KEY STATS

First sensor installed
February 17th 2022

Most recent sensor installed
November 7th 2023

Saved 3 days per pour

Number of sensors registered to date:
297

360 HOURS
labor hours saved

KEY BENEFITS

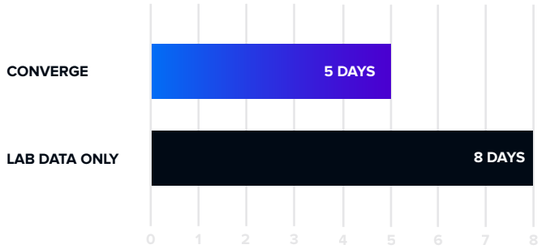
1. Decreased Pour-Cycle Length

a. After performing a calibration for each mix to be used, they were able to see real-time strength data on the ConcreteDNA platform. This allowed them to remove formwork once each pour had reached strength (47 MPa).

b. Temperature/Strength graphs available in the platform were used by their Engineers to document strike orders to remove formwork after strength had been reached.

c. On average, pour cycles were shortened by 3 days per pour. This translated to labour savings of 360 hours.

Pour Cycle Length (in days):



2. Reliable, wireless, and embedded solution

a. On previous projects, the client has used an un-embedded solution which had a tendency to be damaged and lose data. “While Signal is more expensive, it works a lot better and we don’t ever worry about losing data since we can collect it from our phones as a failsafe”.

> “Although you get value from the traditional test cube processes, being able to supplement these with more accurate real time data from these innovative sensors, has been beneficial in enabling us to determine actual in-situ strength gain within the poured slabs.”
>
> **Gregory Deane**
> Senior Engineer, Laing O’Rourke

CONVERGE:
DIGITISING CONCRETE.

1000+ projects

2000+ users

25,000 sensors sold and counting

25+ countries

Founded in 2014, Converge is a construction technology company based in central London. We're bringing construction into the digital age by building AI and cloud-based technologies, powered by our suite of sophisticated wireless sensors.

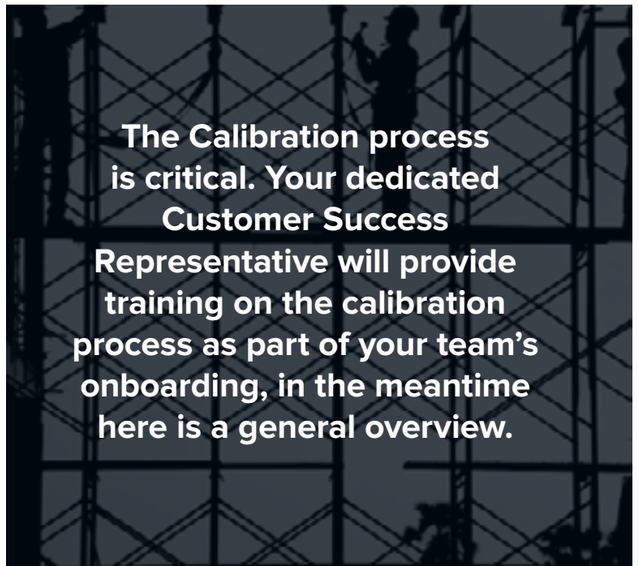
We have global reach. We serve the world's largest construction companies and partner with other trailblazers to push the bleeding edge. We are working to solve the industry's most pressing problems and revolutionise the construction lifecycle.

Converge's ConcreteDNA is a suite of integrated solutions for concrete monitoring, data management, and AI-powered mix insights. It is designed to help busy contractors make informed decisions quickly, optimise labour and resources, reduce embodied carbon, and accelerate project timelines — all without compromising safety or quality.

GETTING STARTED WITH CONVERGE

1. Share your project site details and user information.
2. Receive your Converge devices.
3. Download the ConcreteDNA app.

   GET IT ON Google Play Download on the App Store
4. Calibration.
5. Upload your calibration result to the platform.
7. Start using your sensors!



HOW CALIBRATION WORKS

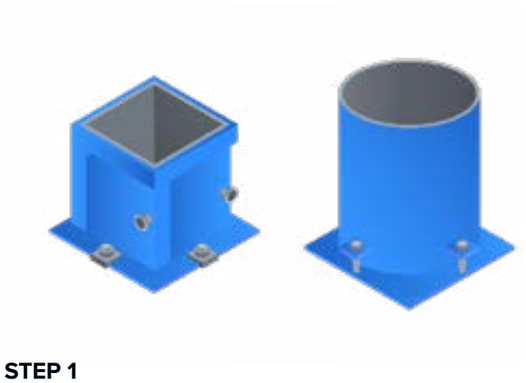
What you will need:

This is a general overview. Greater guidance and support will be provided during the onboarding process.

1. 2x Converge sensors

2. 2x Single Probe Thermal Tail

3. Your standard sample preparation equipment



STEP 1

Prepare your Specimens:

- In most cases, you will need to create **18 concrete samples.**
- **2 samples** must have Thermal Tails (connected to sensors), with the probes embedded in the centre of the sample concrete. These are the **control samples.**
- **16 samples** will be crushed, see step 2.
- All samples should be kept in identical conditions.

STEP 2

Specimen Crushing Schedule (basic):

The **16 samples without** sensors should be crushed according to the schedule below. (Fast acting mixes will need additional crushes in the first 24 hours. Advanced schedules can be provided by our team.)

Do not crush instrumented specimens as these are control samples from which we need temperature data.

Crush one pair of specimens at the following intervals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28

DAYS

Total specimens crushed = 8 pairs (16 specimens).

Temperature data from the sensor instrumented specimens + **Crush results at intervals** = **Strength Maturity Relationship ("Maturity curve")**

The ASTM standard requires 28 days of data, however, you can use the maturity curve in practice once the crush results have reached your target design strength of your concrete mix.

STEP 3

Upload Crush Results:

Upload your specimen crush results to the ConcreteDNA platform where they will be used to calculate the real-time compressive strength of your concrete in the field.

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