

# SMARTCast

BY LAFARGE

LAFARGE DIGITAL CONCRETE SMARTSERVICES

## ENABLING THE FUTURE OF CONSTRUCTION



GLOBAL LEADER IN INNOVATIVE AND  
SUSTAINABLE BUILDING SOLUTIONS





# REAL-TIME MONITORING OF CONCRETE STRENGTH AND TEMPERATURE

SMARTCast by Lafarge allows you to monitor the early strength, the temperature and the temperature-differentials of your concrete cast for optimal onsite control, allowing you to save time, while reducing costs, emissions and risks.

## THE CHALLENGE: DETERMINING CONCRETE STRENGTH AND TEMPERATURE ACCURATELY

Maintaining tight construction schedules while staying within the financial budget remains a key objective of any construction project. These goals are made all the more challenging by the general skills shortage as well as stringent sustainability requirements.

Accurate early strength gain of concrete is critical to construction schedule optimization, and high-performance concretes offer an opportunity to accelerate construction. Yet, relying solely on the traditional method of laboratory cylinder tests can lead to costly delays, as the process is time-consuming, detached from the real environmental conditions on-site, personnel-intensive and delayed in time.

## THE DIGITAL SOLUTION: SMARTCAST BY LAFARGE

With SMARTCast Lafarge offers you digital real time monitoring of the strength and temperature of your concrete casts. Through sensors, cloud-based data-storage and its online platform, SMARTCast by Lafarge gives you confidence in the structural integrity of your concrete elements, provides you with real time alerts to ensure proper curing and control of temperature differentials.

This information enables you to steer your construction schedule actively, whether you need to accelerate the formwork removal on a high-rise project, or choose the right time to stress a post-tensioned element.





# BENEFITS



## SAVE TIME

With faster formwork removal, better planning, and full control of your concrete cast from anywhere, in real time



## REDUCE COSTS

Through a more targeted deployment of onsite resources and accelerated construction schedules



## REDUCE EMISSIONS

With concrete mix designs optimized for a lowered environmental impact and optimized heating and cooling



## REDUCE RISKS

Thanks to the high degree of control on the structural integrity of the concrete applications in your projects

# TARGET APPLICATIONS



High-rise buildings



Precast production



Pre-stressed and post-tensioned elements



Mass concrete elements



Infrastructure

# HOW IT WORKS

Deploying SMARTCast by Lafarge on your projects is easy and hassle-free, and involves the following steps:

## 1



Calculate a maturity calibration curve for precise strength and temperature monitoring.

## 2



Optimize the concrete mix designs for your project to achieve and exceed the desired levels of performance.

## 3



Install sensors and data transmission equipment

## 4



Access all temperature and strength data in real-time from anywhere. This will allow you gain insights and take actions that may increase the speed and quality of your project.

## 5



Obtain a comprehensive report detailing the full concrete cast.

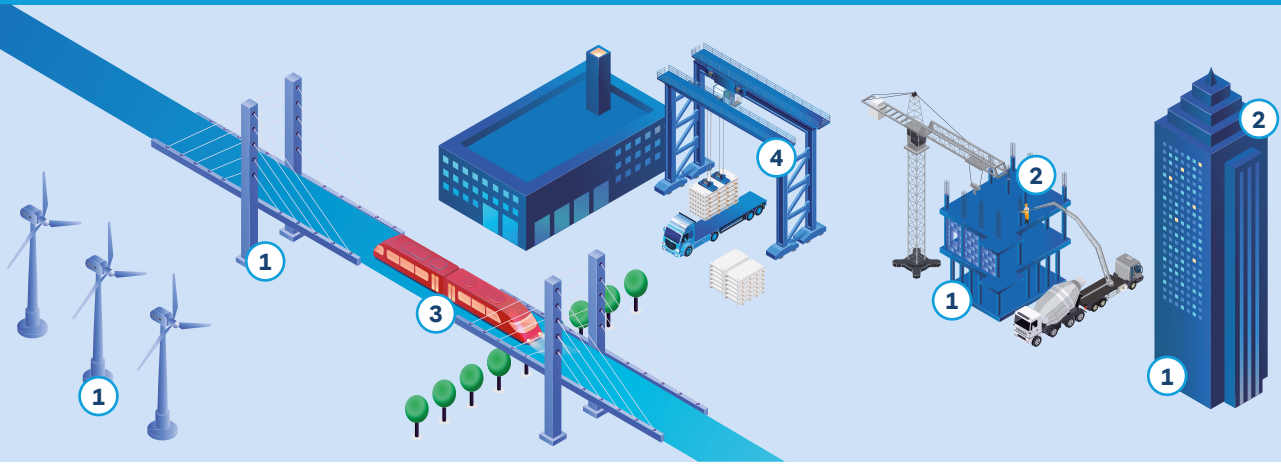
1+2 are services of Lafarge

3-5 are services of local construction company

# LAFARGE DIGITAL CONCRETE SMARTSERVICES FOR YOUR CONSTRUCTION PROJECTS

With the digital concrete services, Lafarge supports you from concept to completion of your construction endeavors. Our solutions improve the construction process from the design of your concrete applications, to the off-site manufacturing of any concrete components, to the usage of concrete on the construction site. Our services benefits from Lafarge's expert knowledge from the most extensive network of concrete operations in the world, as well as the largest concrete research laboratory in the industry. We will help you complete your projects on time, cost-effectively, sustainably and to a high standard of quality.

**LET US SUPPORT YOUR CONSTRUCTION PROJECT DIGITALLY!**



	SMARTCast by Lafarge	SMARTFlow by Lafarge	SMARTTherm by Lafarge
1 <b>Foundations</b>	<p>Monitor temperatures in real time, to be alert to heat of hydration issues</p>		<p>Simulate temperature for mass pours, ensure compliance with temperature specs</p>
2 <b>High rise columns, slabs and structural walls</b>	<p>Monitor strength development in real time, accelerate construction</p>	<p>Choose the right pumping equipment and concrete mix design for the job</p>	
3 <b>Large spans</b>	<p>Monitor your casts in real time, to ensure quality, durability, accelerate construction and control your post-tensioning</p>	<p>Choose the right pumping equipment and concrete mix for pumping over long, horizontal distances</p>	
4 <b>Pre-cast concrete manufacturing</b>	<p>Accelerate your production process with real-time information</p>		<p>Simulate temperature for mass pours, ensure compliance with temperature specs</p>

SMARTTherm 130123

## LET'S TALK ABOUT YOUR IDEAS

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www.lafarge.ca



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