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SATI/CITAC Technical Evaluations – Proving the Quality and Performance of New Products

by

Harry Baker¹ and Michel Hains²

Abstract

CITAC and SATI, two independent organizations specializing in the technical evaluation and certification of urban infrastructure products, have signed a letter of agreement of cooperation that will facilitate and accelerate the acceptance and use of new products and technologies by Canada's urban infrastructure sector.

Prior to signing the agreement, the Canadian Infrastructure Technology Assessment Centre (CITAC), part of the National Research Council's Canadian Construction Materials Centre, offered a technical evaluation service for new urban infrastructure products to facilitate their acceptance on national and international markets.

The Service d'avis technique en infrastructures (SATI), formed by the partnership of the Centre for Expertise and Research on Infrastructure in Urban Areas (CERIU) and the Bureau de normalisation du Québec (BNQ), also offered evaluation and certification services for new products and technologies in Quebec with a view to making them available to Canadian and international markets. The cooperation agreement with CITAC is a step towards this objective.

The agreement, signed in November 2002, allows the two organizations to offer a joint technical evaluation service to their respective clients. This involves developing a joint evaluation protocol for determining the suitability of a technology for its intended use. The protocol will include both testing methodologies and performance criteria for the new product of technology.

Both CITAC and SATI will review the test results and compare them with the performance criteria to see if the technology meets the requirements.

If the technology is deemed satisfactory, they will issue a single final joint evaluation report, which will be available through each organization's publication service.

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Introduction

The Canadian construction industry needs innovative products and technologies to increase its productivity and global competitiveness and to enhance the quality of life of Canadians in general.

Urban infrastructure's industry sector cannot escape this reality and its stakeholders will have to turn to the development and use of new products and technologies so as to be able to adequately meet the rehabilitation and retrofitting needs of urban infrastructures in the current economic and competitive climates.

In this context, manufacturers of innovative products need assistance and support to market their new products and technologies. Owners and operators of municipal and provincial infrastructure systems (consulting engineers and municipal engineers) also need assistance and support to assure them that the products meet their needs as to their suitability, effectiveness and durability, and to help them obtain the "best value" for their budgets.

1. Problems and needs

For more than a decade now, a great number of new urban infrastructure materials, products and technologies have been appearing on the market. Manufacturers of innovative products have had to learn to weave their way through the technological innovation process and to master it in order to adequately meet the new needs expressed by infrastructure users and roadside residents.

However, within this technological innovation process, manufacturers of innovative products are regularly faced with situations that are out of their control and that have nothing to do with the performance and value of their proposed innovation. The problem has to do with the certification and acceptance of their new product or technology by the various owners and operators of infrastructure systems, who are used to or tend to choose proven or standardized products and technologies, or to make a choice based on cost instead of performance.

In such a context, proving and certifying the quality and performance of a new product become very important in the decision-making process of the owners and operators of infrastructure systems.

Many new materials, products and processes are proposed to the owners and operators of infrastructure systems. Manufacturers must demonstrate the performance of their proposed innovation to each potential customer during a given period, which is often long and costly because of the repetitive nature of the demonstrations, and also delays or slows down the marketing of the new technology, thus penalizing the manufacturer.

To solve this problem and help manufacturers pass the certification or quality and performance demonstration stages more easily, more rapidly and at a lesser cost, both SATI and CITAC have been offering quality and performance evaluation and certification services for new products for some years.

In order to broaden the scope of these evaluations and prevent the duplication of services, the two organizations signed an agreement in 2002 to provide joint evaluations of the quality and performance of new products.

Manufacturers of innovative products as well as owners and operators of urban infrastructure systems now have access to a structured, credible and in-depth evaluation tool capable of verifying and proving the quality and performance of innovations. The results can then be accepted or recognized at the municipal, provincial, national and even international levels.

2. Benefits

The technical assessment is a useful evaluation tool, not only to owners and operators of infrastructure systems, but also to manufacturers of innovative products.

It will allow the manufacturer to avoid having to demonstrate the performance of its new product to every potential customer by carrying out costly trial periods, because an independent third party will already have gone through the verification and certification of the new product.

For the manufacturer or the supplier of a new product, the technical assessment then becomes a means to promote the innovative product and validate the results of their research and development efforts.

For owners and operators of infrastructure systems, it will mitigate the managers' and consulting engineers' reluctance to use new technologies, since these will have been evaluated through a structured, credible and recognized process.

The technical assessment thus becomes, for the system owners and the users, a way to obtain reliable and credible information from recognized and independent experts.

Thus, access to a structured and credible technical assessment process on urban infrastructures helps to eliminate many obstacles to the introduction of new technologies and:

- facilitates the acceptance and use of new technologies in the urban infrastructure industry;
- helps save time and money with respect to the marketing of new technologies;
- encourages the private sector to invest in infrastructure-oriented research and development;
- accelerates the standardization process and helps reduce its costs; and
- contributes to the overall improvement in the quality, performance and durability of urban infrastructures.

3. The partners

Let's take a closer look at the partners involved in this joint agreement.

3.1 Canadian Infrastructure Technology Assessment Centre (CITAC)

CITAC was established in 1997 and is under the responsibility of the Canadian Construction Materials Centre (CCMC) of the NRC.

CCMC provides a technical evaluation service for building products that includes, on the one hand, establishing acceptable performance criteria for new products and building systems, and on the other hand, analyzing performance results to determine if the products and systems conform to current standards and meet users' needs.

CCMC fulfills the needs for product evaluation in the transportation and urban infrastructure sectors of the building industry through the Canadian Infrastructure Technology Assessment Centre (CITAC).

CITAC's services contribute to the acceptance and use of new products and systems by authorities having jurisdiction and urban infrastructure specialists throughout Canada and abroad.

CITAC operates under the policies, operating regulations and technical advice of the Canadian Commission on Construction Materials Evaluation (CCCME), whose members come from all parts of the country and represent the interests of legislators, industry and the general population. To exercise its obligation to review the technical aspects of CITAC's activities, the Commission has struck a Standing Committee for Infrastructure Technology Assessment (SCITA), which is responsible for ensuring the reliability and the quality of the technical assessments or reports published by CITAC. SCITA is mostly made up of manufacturers, product evaluation and certification organizations, consulting engineers and representatives from municipal and provincial transportation and utilities departments.

3.2 Service d'avis technique en infrastructures (SATI)

SATI is a general partnership created in 1996 by the Centre d'expertise et de recherche en infrastructures urbaines (CERIU) and the Bureau de normalisation du Québec (BNQ).

SATI's mission is to foster and facilitate the integration and use of new technologies, materials and products by the urban infrastructure industry.

To this end, SATI created and implemented a technical assessment service for new technologies, materials and products which, because of their novelty and unique usage, were not covered by or weren't eligible for standardization.

By definition, a technical assessment is a document that provides information and an expert opinion on the serviceability of materials, products or technologies for the urban infrastructure sector in cases where their novelty or use makes their standardization premature or impossible.

3.2.1 Founding members of SATI and their mission

The mission of the **Centre d'expertise et de recherche en infrastructures urbaines (CERIU)**, founded in 1994, is to encourage the development of know-how, techniques, standards and policies designed to support the long-lasting, economical rehabilitation of urban infrastructures. Since its creation, SATI's actions have resulted in getting the organization known and recognized in the industry for its expertise in the field of building and rehabilitating urban infrastructures.

The mission of the **Bureau de normalisation du Québec (BNQ)**, created in 1962, is to partner with the business, industry and government sectors to promote, through standardization, an increase in the quality of products as well as in their acceptance on national and international markets. Over the years, the BNQ has become a standardizing agency accredited by the Standards Council of Canada for the development of national standards, the certification of products as to their conformance to existing standards, and the registration of quality systems.

4. Operating procedure of the CITAC/SATI joint agreement

As part of their cooperation agreement, the two organizations offer joint technical evaluations to their respective clients. The organization who receives the request for a joint evaluation is responsible for performing the evaluation. The other organization will be asked to participate in the joint evaluation in accordance with the provisions of the agreement.

First, both organizations develop a joint evaluation protocol for determining the suitability of a technology for its intended use. This evaluation protocol includes the test methods that will be used and the performance criteria for the new product or technology.

During the evaluation process, the organizations consult each other for the planning and completion of each stage, and both must be in agreement before the evaluation can proceed to the next stage.

Finally, the two organizations review the test results and compare them with the performance criteria to see if the technology meets the requirements. If this is the case, they will issue a single final evaluation report, which will be available through each organization's publication service.

The cooperation agreement between the two organizations is valid for five (5) years, but can be modified during this period in accordance with the provisions of the agreement.

CONCLUSION

The CITAC and the SATI have established a basis for collaboration in the context of joint technical evaluation services so as to meet the assessment and certification needs for new products and technologies in the urban infrastructure sector in a more efficient and economical manner.

For manufacturers of innovative products, this evaluation tool will facilitate and accelerate the marketing of new products, and this at a lower cost.

For the transportation and utilities departments of municipalities and concerned governments, this will facilitate the decision to accept or approve the usage of new infrastructure products and will involve less risk because the new product will already have been tested. And if a SATI/CITAC evaluation report is not available on the product, clients can always recommend to their future suppliers that they get one or require it from them.

Sources

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