



IALCCE 2012

Third International Symposium
on Life-Cycle Civil Engineering

3 - 6 October 2012
Hofburg Palace, Vienna, Austria

IALCCE

The Symposium is organized on behalf of International Association for Life-Cycle Civil Engineering (IALCCE) under the auspices of the University of Natural Resources and Life Sciences. IALCCE (www.ialcce.org) is a young Association founded in October 2006. Its activities encompass all aspects of life-cycle assessment, design, maintenance, rehabilitation, and monitoring of civil engineering systems.

The International Symposium on Life-Cycle Civil Engineering is a biennial event. In 2012, Austria will host the Symposium for the first time. The IALCCE 2012 Symposium provides an opportunity for academics, engineers, architects, and builders from Austria, Europe, and around the world to keep themselves up to date with latest developments in the field of life-cycle civil engineering.

Special - Sessions SS 1-2:

Industrial Risk Reduction System

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The management of the constructed infrastructure requires models that describe the entire lifecycle. Such a model of generic nature is proposed by the FP7 Research Project IRIS (CP-IP 213968-2).

IRIS proposes a simple basic model with considerable uncertainties, which is improved step by step through introduction and evaluation of new knowledge gained about a structure. The ideal result is a precise assessment of the condition with reasonable margins of uncertainty. The model will be able to show the effect of retrofit actions as well as resulting degradation from accidents or natural disasters.

It is acknowledged that the basic model shall be kept simple and transparent for the end users. In return the background computation is expected to become more and more complex with every new knowledge and methodology developed.

Methodologies for the management of the constructed infrastructure are developed in the IRIS Project (CP-IP 213968-2). The basis is the consideration of the entire lifecycle of a structure. In bridge management this is performed based on the BRIMOS® method developed by VCE, which allows introducing additional quantitative parameters through monitoring techniques.

In order to meet the governing requirements regarding integral life cycle analysis, durability, the real degradation process and residual lifetime considerations the following major aspects are to be considered for life cycle modeling:

- a) The determination/estimation of the design life of new structures
- b) The determination/estimation of the residual life of existing structures
- c) Assessment criteria whether the real degradation process
- d) Maintenance instructions to guarantee the original design life and preservation of functions