

13<sup>th</sup> World Congress on

# Healthcare & Technologies

June 14-15, 2018 | Dublin, Ireland

## A NEW APPROACH OF A SPECIFIC SUSTAINABILITY MODEL

**Corneliu Bob\***

\*Politehnica University of Timișoara, Romania

Most of the existing models which evaluate the sustainability performances of construction works are very comprehensive and with high applicability, like: BREEM, LEED, CASBEE, DGNB, SB Tool, CEN/TC350, Green Star, HK – BEAM and so on. In many cases such models show some disadvantages: some of models do not cover all three dimensions; they include a great number of criteria and many of them are difficult or impossible to quantify; the tools are focused mainly on entire buildings and they can be applied with some difficulties on other types of construction works and activities. To avoid disadvantages, the author and his collaborators had proposed a new assessment method, called specific model. The main advantages of this method are: covers the three dimensions of sustainability; high degree of applicability; includes only quantitative parameters.

The new approach, presented in this paper, is based on the specific model but instead of the calculation of the sustainability index SI the evaluation take into account the price of each parameter of the three dimensions and finally the sustainability cost SC is obtained.

Using of the new approach for the specific construction works sustainability model some advantages are obtained.

1. The judgement of the sustainability by using of the price of each parameter and finally of the sustainability cost is easier understandably by specialists: the most sustainable solution is the cheapest one.
2. By introduction of the correction of the mechanical characteristics (bending moment, stress and stiffness) the better result of the sustainability is obtained: for the rehabilitation of the Western University Timisoara the coating with CFRP is the most sustainable by analyses with SI and SC, but without assuring the drift limitation condition; after operating the correction of the mechanical characteristics, the most sustainable solution is by using steel profiles, which has been used
3. Costs of main parameters were taken from Romanian practice. For different zones and countries, specific costs will have to be used.

### Biography

Corneliu Bob has graduated at the University Politehnica of Timisoara, Romania in 1961 and PhD civil engineering in 1971 at the same University. In 1990 he became professor of R C structures and completed his PhD as scientific coordinator at the civil engineering from faculty in Timisoara. From 1996 till 2004 he was the head of the National Building Research Institute, Timisoara. He has also been very active in the Romanian Associations for Civil Engineering as National Association Engineering for Structural Analysis, Bucharest, Romanian Concrete Commission, Romanian Academy of Material Science. Since 1992, he became the member in the permanent committee as a chairman of the IABSE romanian group and member of the SED editorial board.

cbob@mail.dnttm.ro

### Notes: