

## THE SCIENTIFIC BASIS OF SOFTWARE ENGINEERING

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### **ABSTRACT**

*Define the scientific concepts and fundamental basis of Software Engineering (SE). The scientific concepts are modules, objects, programs, systems and processes of design program systems. The fundamental basic of the SE are: assembly method of modules; disciplines SE (scientific, engineering, economic, management, etc.); paradigms of programming modules, objects, components, etc.; automatization of Life Cycle (ISO/IEC 12207); theory of technological and production lines, factory programs and App Fabric; new logical-mathematical theory of object-component modeling graph of object model (OM); verification of OM and MF (feature model) and testing ready elements of system and evaluation reliability and quality of systems product. Tool support of scientific basis was represented on the website <http://7dragons.ru/ru>.*

**KEYWORDS:** *Science, Concepts, Formalism of Modules, Assembly Method, Object, Component, Interface: IDL, Logic-mathematical Theory, Life Cycle, Product Line, Model FM, Configuration, Verification, Testing, Reliability, Quality*

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### **Article History**

**Received: 08 Jun 2017 | Revised: 19 Jul 2018 | Accepted: 01 Aug 2018**

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