Developing an integrated system of the product life cycle support

© E.I. Kuzin[1], V.E. Kuzin[2]

[1]Bauman Moscow State Technical University, Moscow, 105005, Russia
[2]JSC "Research and production corporation 'UralVagonZavod' ",
Nizhniy Tagil, 622007, Russia

The article deals with the main challenges, objectives and results of introducing the concept of life cycle support of sophisticated engineering systems at machinery manufacture. We consider the implemented enterprise architecture: the structure of information space, processes, and applications.

Keywords**:** *sophisticated engineering systems, management of life cycle, support for sophisticated systems, CALS-technologies, enterprise architecture, business process management, single information space.*

REFERENCES

[1] Mugak T.A., Terekhin I.A. *Uspekhi sovremennogo estestvoznaniya — Achievements of Modern Natural Science*, 2014, no. 7, pp. 141–143.

[2] George L.M. *Lean Six Sigma: Combining Six Sigma Quality*. McGraw-Hill Companies Inc. Publ., 2002. [in Russian: George L.M. Berezhlivoe proizvodstvo plus shest sigm. Kombiniruya kachestvo shesti sigm so skorostyu berezhlivogo proizvodstva. Moscow, Alpina Publisher, 2007, 400 p.].

[3] Norenkov I.P., Kuzmik P.K. *Informatsionnaya podderzhka naukoemkikh izdeliy. CALS-tekhnologii* [Information Support of High Technology Products. CALS-Technologies]. Moscow, BMSTU Publ., 2002, 320 p.

[4] Dmitrov V.I. *Avtomatizatsiya proektirovaniya — Computer-Aided Design*, 1997, no. 5, pp. 2–9. Available at: http://www.osp.ru/ap/1997/05/13031648/.

[5] Obukhova E. *Ekspert — Expert*, 2013, no. 24. Available at: http://expert.ru/expert/2013/24/na-vsyu-zhizn/ (accessed 25 October 2015).

[6] Dmitrov V.I., Makarenkov Yu.M. *Avtomatizatsiya proektirovaniya — Computer-Aided Design,* 1997, no. 2. Available at: http://www.osp.ru/ap/1997/02/13031610/ (accessed 25 October 2015).

[7] Yablochnikov E.I., Fomina Yu.N., Salomatina A.A. *Kompyuternye tekhnologii v zhiznennom tsikle izdeliya* [Computer Technologies in the Life Cycle of the Product]. St. Petersburg, St. Petersburg State University ITMO Publ., 2010, 180 p.

[8] Sudov E.V., Levin A.I. *Kontseptsiya razvitiya CALS-tekhnologiy v promyshlennosti Rossii* [The Concept of CALS-Technology Development in Russian Industry]. Moscow, NIC CALS — Prikladnaya Logistika Publ., 2002, 130 p.

[9] P 50.1.031-2001. *Informatsionnye tekhnologii podderzhki zhiznennogo tsikla produktsii. Terminologicheskiy slovar. Ch. 1. Stadii zhiznennogo tsikla produktsii: rekomendatsii po standartizatsii* [Information Technology for the Product Life-cycle Support. Terminological dictionary. Part 1. Stages of Product Life Cycle: Recommendations for standardization]. Moscow, Gosstandart Rossii Publ., 2001.

[10] Repin V.V., Eliferov V.G. *Protsessnyy podkhod k upravleniyu. Modelirovanie biznes-protsessov* [Process Approach to Management. Business Process Modeling]. Moscow, Mann, Ivanov i Ferber Publ., 2013, 522 p.

[11] Dumas M., La Rosa M., Mendling J., Reijers H.A. *Fundamentals of Business Process Management*. Springer, 2013, vol. 1, 2.
[12] Kuzin V., Kuzina G. CMMN Implementation in Executable Model of Business Process at Order-Based Manufacturing Enterprise. In: *Proceedings of the 2013 OTM Confederated International Workshops in Lecture Notes in Computer Science*. Springer Berlin Heidelberg, vol. 8186, pp. 112, 123.

Kuzin E.I., Cand. Sci. (Eng.), Associate Professor, Department of Automated Control Systems, Bauman Moscow State Technical University. Research interests: control of sophisticated engineering systems, CALS-technologies.

Kuzin V.E., Head of the Complex Automation Department, JSC "Research and production corporation 'UralVagonZavod' ". Research interests: control of sophisticated engineering systems, simulation, business process management.