

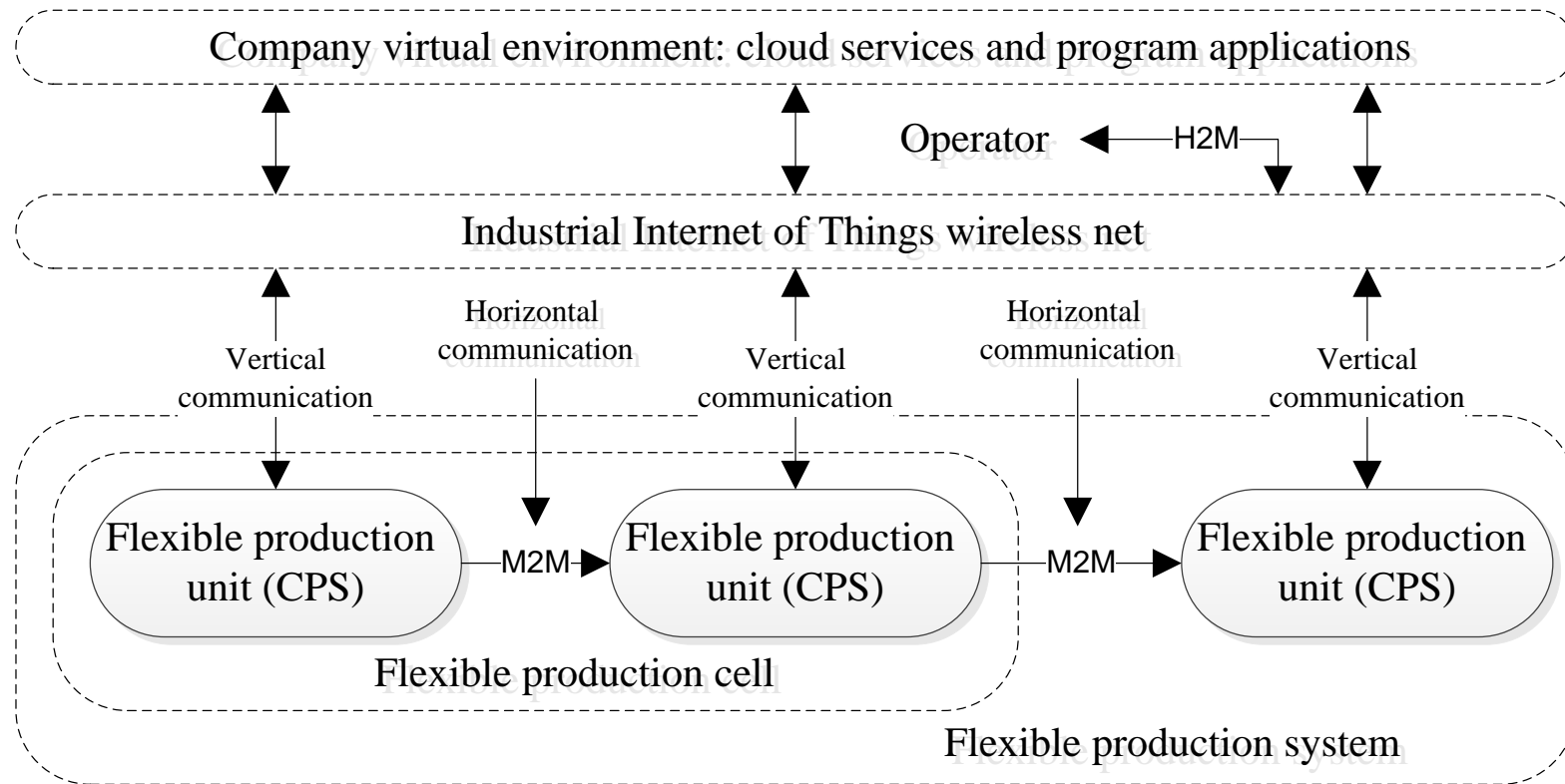
## **MODULAR ARCHITECTURE OF CYBER-PHYSICAL PRODUCTION FOR INDUSTRY 4.0**

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The task is to create a digital production company equipped with cyber and physical systems. Cyber and physical transformations of productions is a direction for the industry development which is the paradigm of the Industry 4.0. The Industry 4.0 requires to implement in production autonomic production robots and advanced production technologies. The digital production main component is a production cell, production module and production system which interact in vertical and horizontal communication levels. Flexible production system control is done by the computerized control system. There is a scheme of module architecture for the Industry 4.0 cyber and physical production which functions with professionally prepared cadres.



**Figure 1.** The Industry 4.0 digital production company module architecture.

The most important aspect of the Industry 4.0 digital company creation is the preparation of professional cadres oriented to work in cyber and physical production.

The Industry 4.0 specialist competence is the ability to apply in practice knowledge, skills acquired in the educative company by studying the advanced production technologies which is the main content of disciplines in the educative programs. Oriented for practice educative program provides interaction of educative company and its industrial partner which in the paradigm of the Industry 4.0 should be known as the center of competences.

The centers of competences define the event system which are necessary to provide as oriented for practice educative programs to prepare the specialists by the educative standards of digital economy. In the paradigm of the Industry 4.0 the centers of competences are a form of professional society which prepares the cadres who know the different advanced production technologies.