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MODELLIERUNG HAFENBETRIEBLICHER PROZESSE

Transpress, VEB Verlag für Verkehrswesen, Berlin, 1977, 140 pages

Through their entire activity, seaports directly influence the efficiency of sea transport in any land, and hence national economy.

The continuous growth of the transported amounts and of the loading-unloading and transport activity in seaports, in connexion with the acknowledgement of the laws concerning the development of seaport production processes — which in fact allows their quantization — made it possible to resort to the mathematical instrument in this field of activity.

This work aimed at modelling production processes in seaports, both for improving the decision-making in planning the production activity, and for solving the management-control problems of the process. The proposed target was actually reached.

The work is divided into five chapters.

Starting from the presentation of the necessity and possibility of a quantitative examination of the production processes in seaports, in view of their rationalization (chapter 1), the author devotes the second chapter to the large systems — as instruments for modelling seaport processes.

Chapters 3 and 4 are the basic chapters of the book: (3) Seaport unloading ramp as an attending system in two stages (preparation process: loading-unloading the ships, and the flow of goods into ware-houses, and (4) Researches for managing-controlling the seaport production processes.

The work is concluded by a final considerations chapter.

The development of the seaport production activity pointed out that it can be modelled as a stochastic process. With the help of the distribution law the random character is determined and the deviations resulting for the considered process are described.

An important place in this work is held by the description of the production cycle in the seaport and by the corresponding indicators, by the indicators of an unloading system of incoming ships according to Poisson's law; by the movement of goods in ware-houses; by the determination of the storage capacity for a continuous incoming flow of goods, through measuring the incoming flow of goods in ship units or in subsets. The various versions of determining the storage capacity are compared between them.

As concerns the management-control of the production processes the author analyses the importance of information regarding the possible arrival flow of ships; he studies the storage capacity in certain given

conditions and carries out a series of analyses concering the unloading-loading of ships.

Numerous examples are inserted within the book and they facilitate and supplement the understanding of the expounded problems. The work is profusely illustrated with diagrams and graphs.

This book is meant for all these who are interested in introducing modern methods of modelling-optimizing production processes in seaports.

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