A Methodology for the Utilization of Existing Industrial Sites

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An enormous industrial potential was built up in Bulgaria under the protection of a centrally planned economy. This strong foundation needs now to be developed to its full potential as the country enters the free market. Our research determines which of the existing industrial assets can be utilized to meet today's needs, and under what conditions and in what ways they might be utilized.

GIVEN OUR RECENT industrial reforms, the idle portions of industrial yards and buildings – some abandoned, some never completely constructed, some finished but never equipped with machinery – undoubtedly represent a huge potential for accelerating and improving industrial development. This situation requires a methodology for partitioning off the underutilized assets for new uses. This is an important issue, since 90% of the nation's factories are state-owned or operated and their market value after privatization has yet to be determined. The methodology can be applied to industrial facilities which are to be privatized, and in fact to any factory which is not to be closed down.

The purpose of this study is to demonstrate how industrial sites and buildings can be used most effectively. An important step is to consolidate businesses which are currently spread out over several buildings, some of them unfinished or only minimally used. Operations should be concentrated to those buildings which are essential to the future function and development of the business, freeing up the vacated buildings for new uses. Our methodology will show how many building sites may be made available to private companies, thus facilitating the process of industrial privatization and expanding the possibilities for the restructuring of industry.

The Methodology's Research Phases

Our methodology clarifies the legal as well as the architectural and technical issues involved in the partitioning off of unused industrial sites and buildings.

Our investigation covers a number of case studies, from which we have classified industrial businesses into the following four categories:

- businesses which are likely to continue to produce the same volume under the same technological conditions as today;
- businesses which will maintain the essence of their current production but will be forced to reduce production volume, which will in turn necessitate some technological changes;

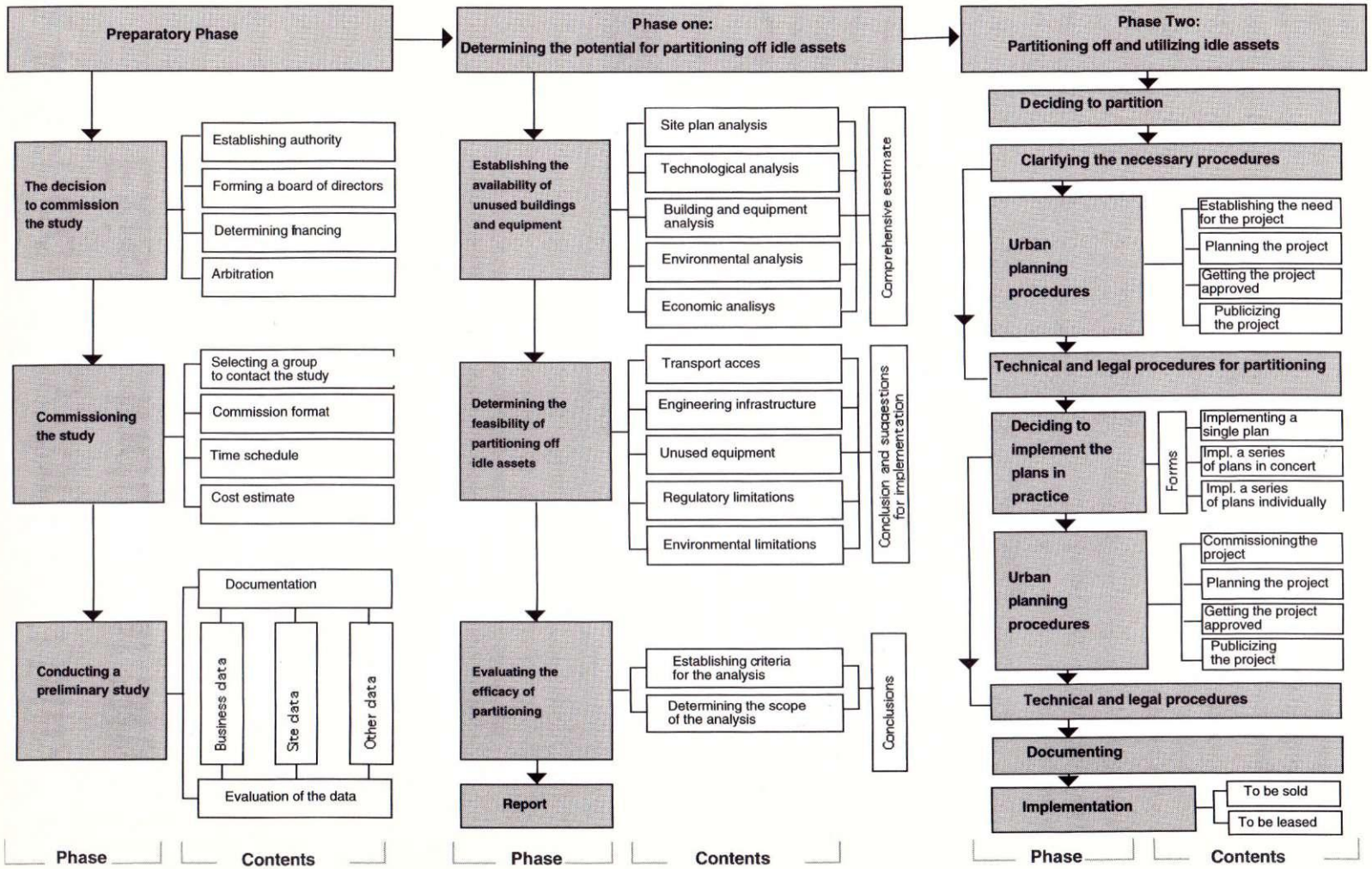

Fig. 1. Pha ses of the s tudy

- businesses which will change both their product and production technology; and
- businesses which will be forced to stop producing entirely.

The methodology calls for the following investigations:

- a conceptual study, involving the active participation of an architect;
- a study of legal issues; and
- a financial or feasibility study, involving experts from a number of different fields.

Our methodology comprises three phases:

- Preparatory Phase – the commissioning of the study and gathering of data;
- Phase One – a theoretical study in three stages:
- first, determining the availability of unused assets (buildings or land);
- second, determining if the unused assets can be partitioned off from, and exist independent of, the rest of the facility; and
- three, evaluating the efficacy of partitioning;
- Phase Two – a practical study dealing with developing designs for unused buildings and with all the legal procedures involved in officially partitioning off unused buildings and then bringing them into use.

A few criteria for assessing the potential for partitioning off unused buildings and sites were defined. These criteria can be grouped[, case by case,] into two categories: universal and specific.

Universal criteria:

- legal jurisdiction over the business and related issues;
- the ratio of built area to the total area of the site;
- the possibilities for freeing up land by destroying buildings which are unwanted for functional or ecological reasons, and for consolidating existing buildings into blocks and adding additional stories to them;
- the existence or lack of a long term strategy for utilizing the idle land, buildings, or equipment.

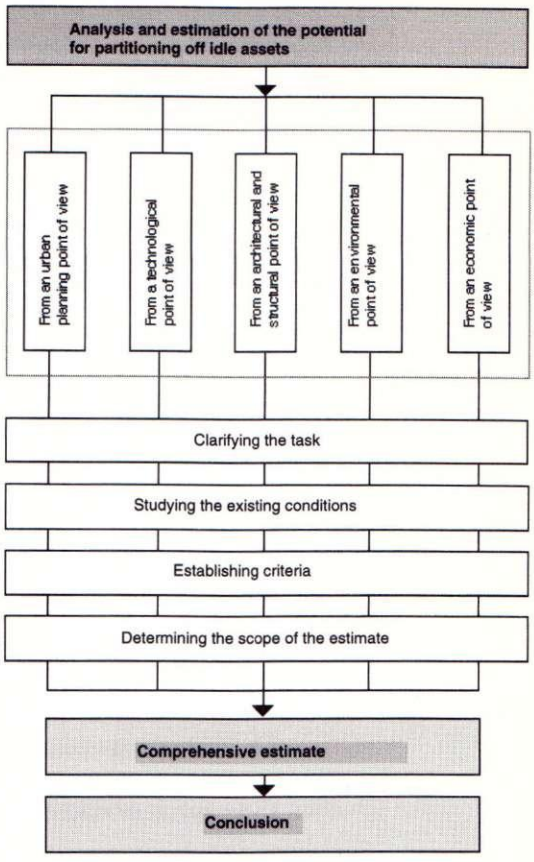

Fig. 2. Sequence of analyses for arriving at a comprehensive estimate.

Specific criteria:

- the location of the business: whether it is free-standing or part of a group, and the constraints placed on it by its immediate surroundings;
- conditions necessary for privatizing the business, and an estimation of the value of the resulting property: if a program for restructuring the business is to be developed, then the investigation into the potential of its underutilized assets should be organized simultaneously;

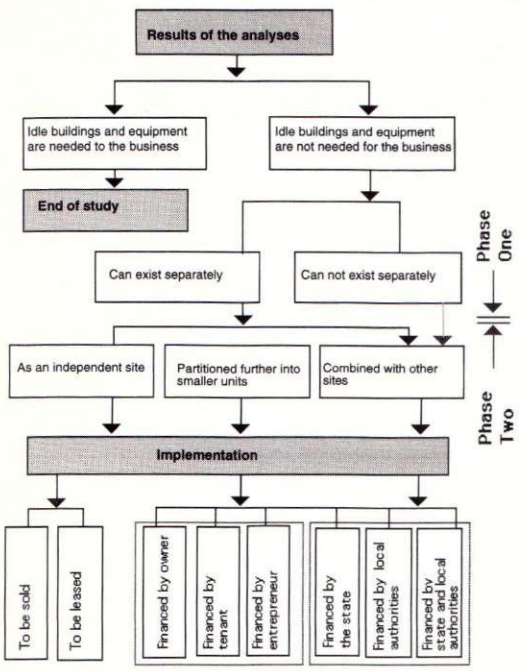

Fig. 3. The results of the analyses, showing potential uses for idle buildings and sites

- client specifics: their aim is to restructure for maximum efficacy.

While this methodology outlines the general approach only, consideration for the specifics of each project is of paramount importance. Relations with the local authorities must be considered: producing a legal estimate of the value of a privatized business requires that a large amount of data be gathered and coordinated with health authorities, the fire marshal, and others.

Methodological Guidelines for Determining the Content and Insuring the Consistency of the Investigation

Our methodology gives precise step-by-step guidelines for accomplishing each of the three phases in the process of restructuring (fig. 1). The guidelines for Phase One, determining the potential for partitioning off idle assets (fig. 2), are particularly important:

- determine the availability of unused assets that are not essential to a business' survival and future development by analyzing the existing site plan from technological, architectural, and structural viewpoints, and estimating the business' financial situation;
- draw up an official estimate of the potential for the unused assets based on the preceding analyses (fig. 3);
- determined the potential for using the idle buildings and equipment separately; and
- conduct a feasibility study.

The guidelines for Phase Two, partitioning off and utilizing idle assets (fig. 3), include obtaining official approval for the partitioning off of recommended idle buildings and equipment and clarifying the procedural issues ensuing from the implementation of this decision.

Practical Implementation of the Methodology

The potential for implementing our methodology and its guidelines was tested practically on an existing industrial facility, Stroicommerce Ltd. in Samokov. The company which makes precast housing elements occupies two separate sites in the town's industrial area, a factory (site A) with a total area of 60 dca, and facility for the production of precast housing panels (site B) with a total area of about 70 dca.

An analysis of the two sites revealed the presence of unused land and building areas. A comprehensive estimate of their potential was determined based on separate assessments of technological, architectural, structural, ecological, and financial aspects. This estimate showed which of the idle assets were not necessary for the existence and development of the business (fig. 4).

Underutilized areas on site A were:

- area #1 (behind the mortar production facility),

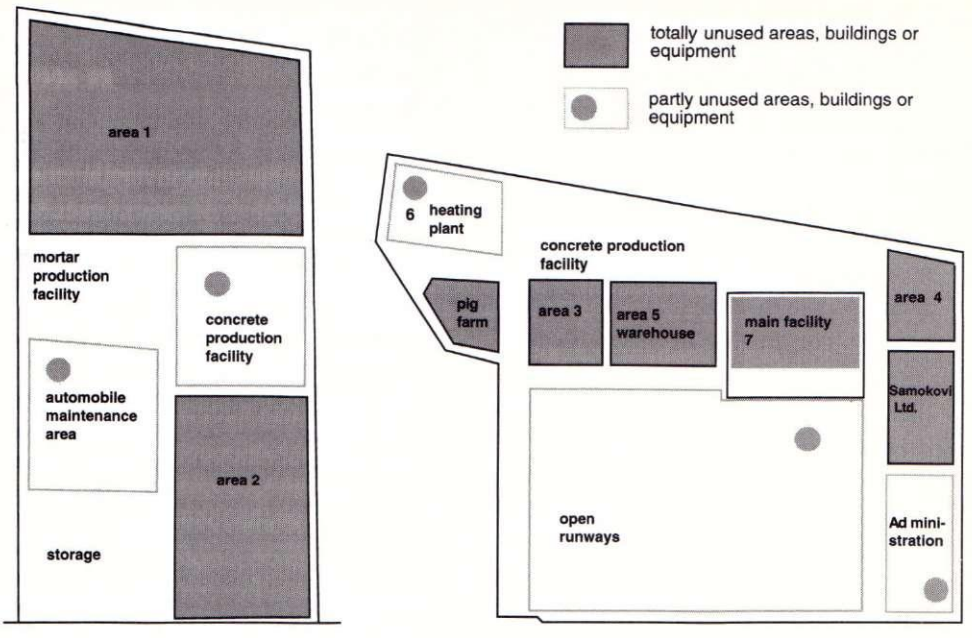

Fig. 4. Schematic plans of Stroicommerce Ltd.'s two industrial sites in Samokov.

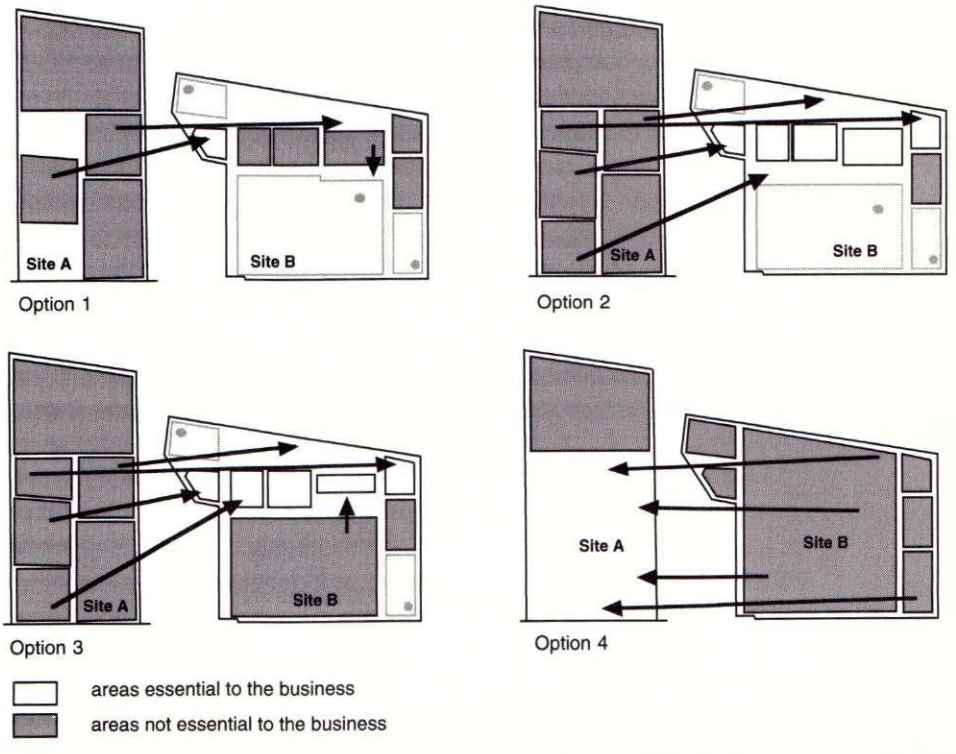

Fig. 5. Stroicommerce Ltd., Samokov. Four options for the transfer of operations based on assessments of the potential use of each area of the sites.

- the concrete production facility,
- the automobile maintenance station, and
- area #2.

Underutilized areas on site B were:

- area #3 (behind the warehouse);
- area #4 (south of the pump station);
- area #5 (the product warehouse);
- area # 6 (the heating plant);
- area #7 (comprising three warehouses for the main facility);
- the area occupied by the newly established business, Samolovi Ltd.;
- the area occupied by the administration building, the wood shop, and the lounge and kitchen; and
- the area presently occupied by the pig farm and the open runways made by the animals.

Several different solutions for transport access and equipment were tested on each individual area. We arrived at four different schemes (fig. 5) for the transfer of operations based on assessments of the potential use of each area of the sites. The study concludes with estimates of the efficacy of partitioning off each area, and of the necessary expenses and expected income for each.

We hope that the methodology outlined above might be of use in other Eastern European countries that are currently making the transition to a free market economy.

This report is the result of an extended investigation performed by the authors together with Bulplan Co.

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