

Land-Related Tasks and Possibilities Related to Implementation of the Sustainable Development Goals

- *Based on the Danish Land Administration System*

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Key words: Sustainable Development Goals (SDG), Land Administration Systems (LAS), Capacity Development.

SUMMARY

Starting from the basis of UN's Sustainable Development Goals (SDG) in which securing tenure rights for all is a critical factor in eradication of poverty and hunger, this paper describes how the Danish land administration system (LAS) is structured regarding tenure rights and administrative property data in national and municipal systems. In relation to this, the function of Danish chartered surveyors is described.

This paper describes the advantages and barriers associated with the establishment of LAS and describes the features of the legal and institutional framework and the need for undertaking capacity development of local workers in connection with the establishment of LAS.

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1. INTRODUCTION

In order to ensure the achievement of the SDGs, establishment of a LAS is essential. On both the local and national level, there can be resistance to the changes the establishment of LAS will cause in developing countries, since it may be perceived as a threat against the structures and traditions that are already established as well as to existing tasks/jobs.

This paper attempts to address the potential barriers related to implementation of LAS by highlighting potential new tasks in connection with and after implementation of a LAS.

This paper is based on the Danish LAS, in which the registration of properties and tenure rights in cadastre, the land registry and municipal registers form the basis for a series of administrative systems, such as:

- Handling of building permits
- Valuation and taxation of real property
- Planning and land use administration
- Administration of rural areas, natural resources, extraction of raw materials etc.

These tasks can potentially create many jobs in the administrative sector while simultaneously providing a good basis for administration of the country's properties, natural resources etc.

With a view to changing the mindset both locally and centrally and to address potential resistance to the establishment of LAS, the features of the legal and institutional framework and the need for training and employment of local workers are described. This capacity development can be a key driver for decision-makers in connection with the implementation of LAS.

2. LAND IS FUNDAMENTAL FOR THE SUSTAINABLE DEVELOPMENT GOALS



Figure 1. The 17 Sustainable Development Goals. © United Nations

Research undertaken by a range of key actors, including the World Bank, the Food and Agriculture Organization of the UN, OECD, civil society organizations, and academic institutions, shows that security of land tenure rights is closely connected with the realization of development objectives related to poverty alleviation, food security, environmental sustainability and enhancing women's empowerment. (Ravn-Christensen and Norre, 2018)

The abovementioned connection between land and sustainable development is recognised in the 17 Sustainable Development Goals and the 170 targets that include a thorough focus on land. At least eight goals are directly land-related or include land implications.

Especially *goal no. 1 No poverty* and *goal no. 2 Zero hunger* specifically address the lack of protection of land tenure rights and use rights that subject large portions of the world's population to poverty and hunger. (Ravn-Christensen and Norre, 2018)



SDG no. 1 End poverty in all its forms everywhere

This core goal addresses the cohesion between poverty alleviation and access to the necessary means to strengthen the security of land tenure rights.

Particularly Target 1.4 concerns the land aspect by stating: *“By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.”*

In order to achieve the goal, it requires significant efforts to formalise land ownership by the poor and vulnerable. (Mennen, 2015)

The 1.4 target emphasises just how important secure land tenure rights are in ensuring economic development and thus a basis for proper income opportunities. The target is measured based on the proportion of total adult population with secure tenure rights to land, (a) with legally recognised documentation, and (b) who perceive their rights to land as secure (indicator 1.4.2)



SDG no. 2 End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

The Zero Hunger-goal emphasises the importance of small-scale agricultural producers in order to ensure a sufficient amount of food to the world’s poor and vulnerable.

Target 2.3 states: *“By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.”*

By that, it indicates and thus recognises that access to land and protected land tenure rights is interconnected to protection and increase of small-scale producers’ productivity.

The Danish system is described below as a possible inspiration for tasks in connection with the establishment of land administration systems.

3. THE DANISH LAND ADMINISTRATION SYSTEM

The land administration systems in Denmark is developed over more than 200 years and has been continually adapted and improved to meet changing societal requirements over time.

The first property register was established for the purpose of property valuation and taxation to create an income for society. This registration also gave property owners and owners of mortgages and tenure rights protection and security for their ownership and rights.

Later, use of the register was extended to include functions such as planning and regulating the land use of urban and rural spaces and the country's natural resources. Finally, registers were established for purposes including detailed regulation of land use and the handling of building permits.

In addition to property rights related data in the cadastre and the land registry, the Danish LAS furthermore includes a series of administrative property data in national and municipal systems. The systems have become fully digital over the past decades.

The Danish LAS is based on transparency, which makes it easy to see information regarding ownership and restrictions associated with a property. This transparency is important for ensuring the tenure rights of citizens and companies.

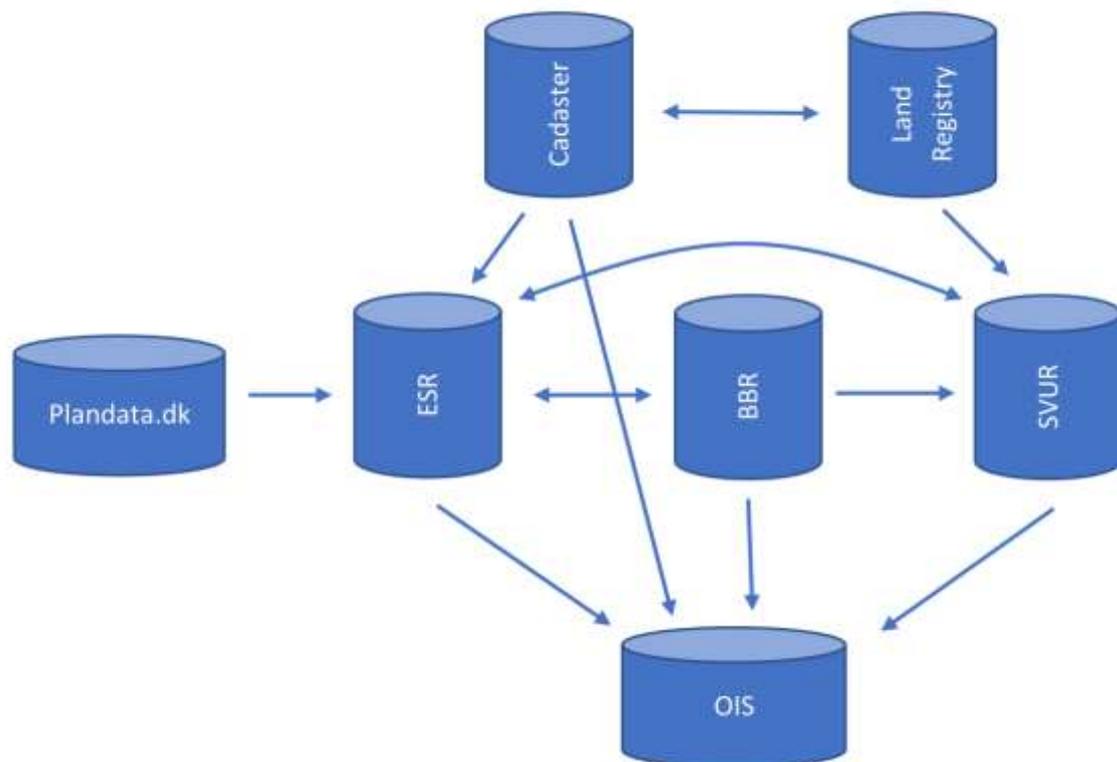


Figure 2: The interconnection between the national registers related to land

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Cadastral system

The cadastre forms the legal basis for property registration in Denmark. The cadastre consists of the cadastral register, cadastral map and cadastral archive. The Danish Geodata Agency is responsible for the overall cadastre.

The *cadastral register* contains data on all registered cadastral plots in Denmark. The register contains information on areas, including roads and streams, registration conditions (e.g. regarding agricultural properties, combined properties or protected forests) as well as information on boundaries.

The *cadastral map* is a visualisation of the cadastral register. The cadastral map shows all of the real properties in the country with the associated property boundaries and rights of way as well as protected forests, and zoning information. Property boundaries are physically marked with boundary pipes in the ground.

The *cadastral archive* contains outdated cadastral maps, cadastral records, registered cadastral cases and survey information.

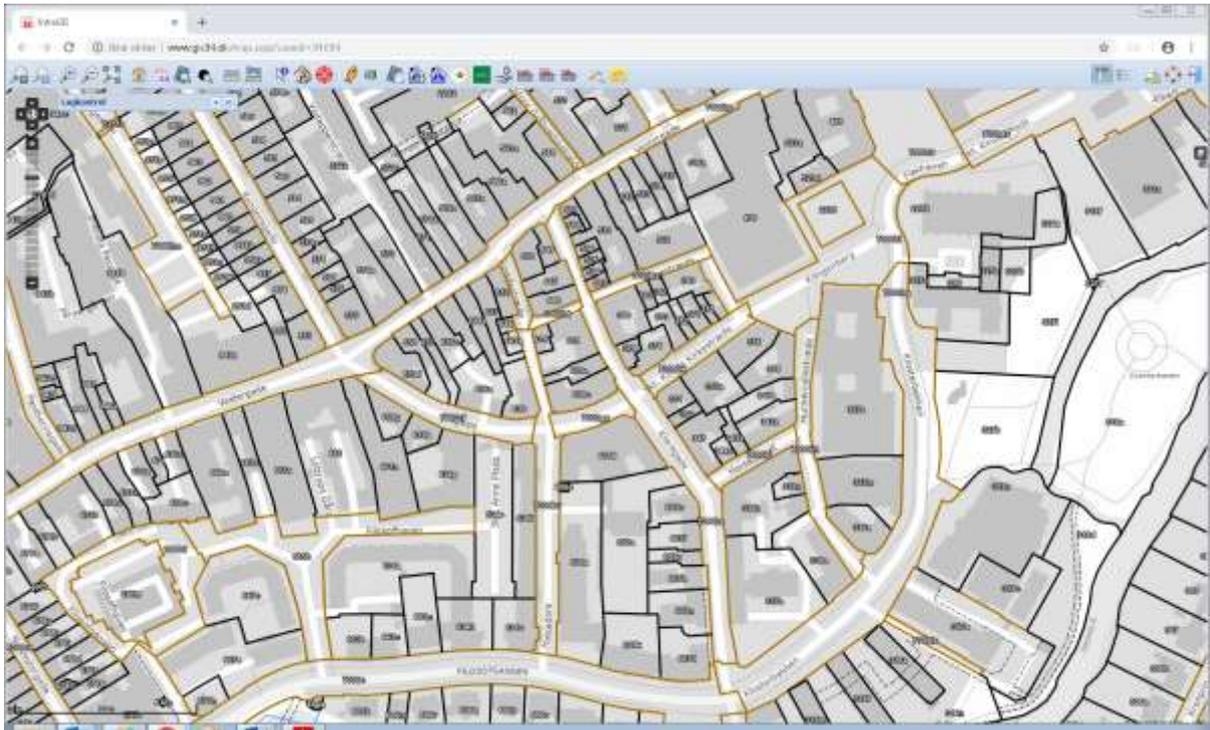


Figure 3: Cadastral Map

Beyond the historical interest for saving these documents, the cadastral archive/register is also used to clarify rights established in connection with cadastral cases as well as to obtain

measurement information to be used by the chartered land surveyor in the establishment and (re)marking of cadastral boundaries.

When a cadastral subdivision of an area or a subdivision of a building into condominiums is carried out, new properties are created and can be sold and mortgaged.

The actual subdivision work is performed by a chartered land surveyor in a private company. The chartered land surveyor is in contact with the owners of the affected properties and ensures correct surveying and demarcation as well as compliance with other land use legislation before the case is submitted to the national Geodata Agency for approval, which updates the cadastral register and the cadastral map following approval.

The Danish Geodata Agency then sends a message to the land registry and the municipal property database (ESR) regarding the changes made in the cadastre.

Land registry

The land registry system is recording ownership and other tenure rights related to the cadastral properties, such as mortgages and easements. The records in the land registry ensure that tenure rights are valid and protected against third parties. The records in the land registry are publically accessible to all.

There is a very close relationship between the cadastral system and the land registry, which is set forth through legislation.

During the process of making cadastral changes, such as subdivision or transfer of land, the information in the land registry is checked to ensure that the chartered land surveyor has taken mortgages into account and distributed other tenure rights associated with the affected properties properly, before the final recording of the change in the cadastral register.

As mentioned, the information on the affected properties is automatically updated in the land registry on completion of the cadastral case.

Danish chartered land surveyors often handle the recording of tenure rights in the land registry. This typically entails the registration and securing of tenure rights to properties, such as right of way and easements.

The Danish property rights registration system also includes the registration and protection of data on matters other than real estate, such as vehicles, marriage certificates and movable property etc.

BBR - Central Register of Buildings and Dwellings

The BBR is a register containing information on buildings, residential and commercial units, industrial facilities and information on actual energy use in buildings.

Among other things, the BBR includes information on building areas, location, use, installations, water and sewers, kitchens, outer wall and roofing materials etc.

The municipalities are responsible for continual updating of the BBR. In addition to information submitted by property owners, the register is updated especially following the handling of building cases in the municipality.

The information in the BBR is used in connection with property valuation, mortgaging of properties, building cases, property transactions etc.

The chartered land surveyor checks the information in the BBR in connection with the recording of cadastral cases in order to ensure that the BBR is updated.

SVUR - National Sales and Valuation Register

The SVUR is a register containing valuation information, including information on property and land values as well as information on sales prices for completed property sales.

The information in the SVUR originates from the Valuation Register (VUR) and sales prices obtained from the land registry.

The Danish Customs and Tax Administration is responsible for the VUR/SVUR. The Customs and Tax Administration provides valuation information via the SVUR. The Danish municipalities use information from the SVUR to calculate property taxes.

Planning Register

In Denmark, the state establishes the overall guidelines for planning, while the municipalities are responsible for translating these guidelines and visions into actual spatial planning. This is achieved by elaborating through a municipal plan that sets the overall framework for the local spatial plans that more precisely define the specific regulations for a more limited area in the municipality.

Spatial planning has been performed on a decentralised level and includes public inclusion in the decision-making process. The municipalities plan the future development of Danish cities and rural areas within the context of overall state interests.

Denmark has established a digital register, Plandata.dk, for spatial planning throughout the entire country. This provides free access for all to public plans regarding local, municipal and regional planning.

The Danish Business Authority is responsible for operating and maintaining Plandata.dk. The Danish municipalities are responsible for entering their own plans and for the quality and content of the plans.

Plandata.dk is used by public authorities, private companies - including land surveying companies - and citizens to determine which plans apply to a specific area or for a specific property, thus enabling them to quickly obtain an overview of the possibilities – and limits – in the area of interest.

Many Danish chartered land surveyors work with tasks related to spatial planning in the Danish municipalities and contribute to the digital planning register with local plans and municipal plans.

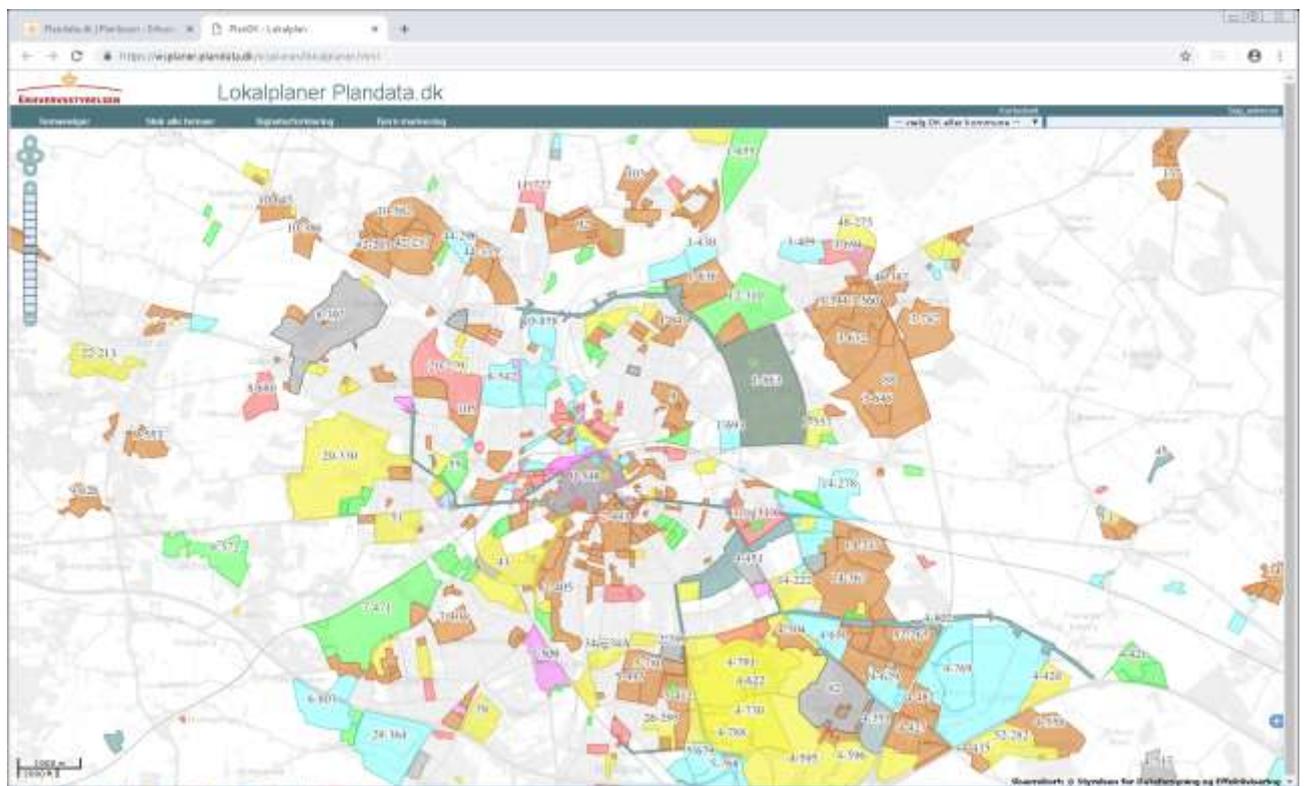


Figure 4: Local plans in Plandata.dk

ESR - the Municipal Property Database

ESR is a register containing information on ownership, spatial planning, cadastral information, valuations and property taxes.

The Danish municipalities are responsible for the data in the register and for continual updating of the information in the ESR. In addition to municipal data, the ESR is also updated with information from sources including the cadastre, BBR, VUR and Plandata.dk as described above.

In particular, national and municipal authorities and private companies, land surveying companies, use the register to perform administrative, statutory and spatial planning tasks.

The ESR is used by the municipalities in connection with charging fees for water, waste removal etc.

OIS - the Public Information Server

The OIS is a database compiling information from numerous registers, including those mentioned above.

The OIS was established to provide real property owners free access to data about their own properties.

The compilation of information from many registers also provides easy access to property data for companies, such as chartered land surveyors, real estate agents, financial and mortgage companies.

Danish chartered land surveyors

Privately operating chartered land surveyors in Denmark have a monopoly on performing cadastral work, i.e. all property changes as well as registration and marking of property boundaries.

The course of study for a chartered land surveyor is a five-year master's program and is a broad professional course of study focusing on property formation, surveying and mapping, GIS, spatial planning and land management.

Before certification with the right to perform cadastral work, a land surveyor must have performed cadastral work for three years.

The Danish practice of land surveying has a long tradition for handling the establishment of property. The first Danish chartered land surveyors were certified over 250 years ago.

4. LAND ADMINISTRATION SYSTEMS IN DEVELOPING COUNTRIES

As described above, the establishment of LAS and security of tenure rights is an essential factor for eradication of poverty and hunger.

The actual ownership of land is a key factor and secure tenure rights has an inherent and existential value for landowners, so that they do not lose their livelihood and have to leave their home and land due to "land grabbing," for example.

With regard to the perspective of sustainability, the security of tenure especially for agricultural properties will ensure better and more sustainable use of the land as the focus shifts from year-by-year planning with a view to the greatest possible yield here and now to longer-term planning and investment in the land with a longer time perspective.

In the long term, the owners of agricultural property could then potentially be able to proceed from providing food for their families to establishing greater production with the sale of agricultural products.

In the same way, other commercial and industrial properties will have better opportunities for long-term planning of production and investment.

In addition, securing tenure rights is critical for land owners to be able to mortgage their property for subsequent investment, by providing the mortgage holders with real estate as a security for the mortgage.

The improved investment conditions resulting from the establishment of tenure rights are a critical factor for economic and sustainable development.

Barriers

Both locally and nationally, there can be a lack of understanding of the advantages of the establishment of LAS, resulting in a lack of incitement for starting the implementation.

In developing countries, there can be resistance to these "changes" on both the local and national level in connection with the establishment of LAS, since they may be perceived as a threat against the structures, traditions and existing tasks/jobs that are already established. Resistance can be especially strong among decision-makers in countries with a tradition of corruption.

A lack of cooperation and coordination between the existing organizations/agencies in state administration can be a hindrance to the establishment of LAS, just as a lack of flexibility in organizational structures can make it difficult to implement the necessary changes.

In establishing LAS, the legal framework for the registration of properties may be outdated, or there may be existing legislation that deliberately obstruct the introduction of new property systems.

In the legal system, legislation may also be established based on principles from developed countries that place unrealistically stringent requirements on precision, standards etc.

The necessary knowledge and training regarding measurement, registration, IT etc. can be critical in determining the success of subsequent maintenance and potential expansion of the LAS.

5. "TASKS" ASSOCIATED WITH LAND ADMINISTRATION SYSTEMS

As mentioned in the introduction, the Danish LAS has been in existence for over 200 years, and the idea is not to copy the Danish system but rather to appreciate concepts such as the interface between the public and private tasks and how the establishment of registers and geodata is organised.

Information

It is critical for successful implementation of LAS that people from all levels and all interest groups are informed in advance of the advantages of the systems. On the level of landowners and NGOs, on the administrative levels and on the political level.

This information campaign is an important task for ensuring understanding for changes in how property is handled and to establish "ownership" of the project.

Institutional/legal

In establishing LAS, it is important that the objective(s) the system is to initially achieve is understood and prioritised, so that the institutional framework and establishment of property-related registers can be configured and adjusted accordingly.

In addition, the institutional organization should be considered already at an early point in the process of the establishment of LAS, with a view to preparing these systems for possible extension of the system that is initially established.

The legislative actions are directly related to the institutional considerations to ensure that the establishment and handling of the LAS with the associated registers are adapted to the desired setup from a legal standpoint.

The existing property legislation must be identified and revised, and the necessary annulment of outdated legislation and elaboration of new legislation must be initiated.

The new institutional structures and the interaction between the property registers must be grounded in the applicable legislation, and legislation must be implemented to ensure the ownership of land and tenure rights and the establishment of provisions for property and land transactions.

Finally, the appropriate institutional and legal framework must be established for the responsible management of the environment and natural resources, potentially supplemented with corresponding provisions for other spatial planning.

Resources - training/capacity development

In connection with the establishment of LAS, there is an initial need for training of local land surveyors, and any existing local land surveyors can play a key role in connection with the training of new people.

After the establishment of the LAS, the local surveyors will have the permanent ongoing task of handling future property changes and of updating and further developing the property system. It must be considered whether the land surveyors should be employed privately or publically.

There is also a need for capacity development of local people who can handle IT tasks for registration of the measured data and handling of property data in the selected database system. This includes both the direct registration of surveys and property data as well as handling of the future records and maintenance as well as expansion of the systems.

Finally, it would be advantageous to train persons with knowledge of property ownership or knowledge of specific property legislation, if such legislation exists.

It can be considered whether these should be trained in the same way as Danish chartered land surveyors, with a broader range of competencies who can potentially handle and maintain an overview of surveying, tenure registration, IT and property ownership/property legislation.

6. CONCLUDING REMARKS

Establishing and implementing LAS in developing countries entails a large number of tasks that can be carried out by local surveyors, IT specialists, lawyers, administrative staff and chartered land surveyors - both publically and privately.

Within the areas of information, institutional and legal structures as well as education and capacity development, implementation of LAS will cause a large number of tasks in connection with establishment of the system and subsequently with regard to maintenance, updating, optimization and further development.

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