GMES - Services Evolution

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Dynamic Service Modelling

Feasibility, Sustainability and Requirements Analysis

The EC has established the first pre-operational GMES services and seeks to enable continued development of these and related downstream services in the medium to long term.

The feasibility modelling tools developed by SciSys under ESA funding enable quantified evaluations of the necessary characteristics for a particular service line to be sustainable and meet the information needs of user organisations (for example; lead times, costs, required accuracies, data utilisation, etc.). This modelling provides important underpinning for end-user communities and supports the potential for downstream services.

Other benefits include the ability to identify gaps or deficiencies in the delivery chain or the user side organisation that additional infrastructure or modified processes could remove.

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GMES

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Background

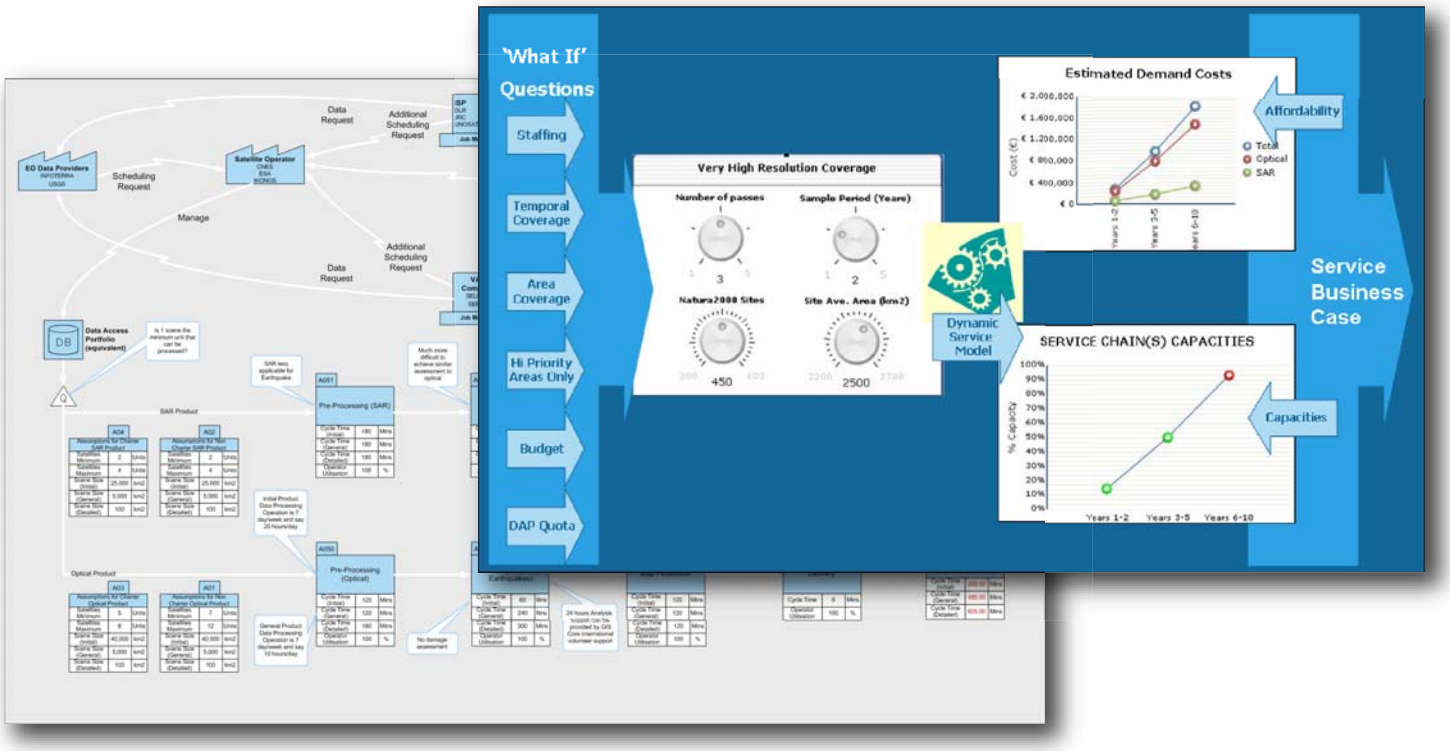
GMES is a set of information services based on observation data received from Earth Observation satellites and ground based information. These information services will permit relevant authorities to monitor and better anticipate potential environmental threats, to intervene in a more timely way and to increase the efficiency of their intervention.

SciSys has been awarded a contract to carry out the ESA-funded GMES Services Evolution Study. The overall objective of the study is to characterise a selection of GMES GSE service lines, as we know them now, model the options for user organisations' information needs and evaluate the potential sustainability of existing and potentially new GMES services in the future.

Approach

SciSys developed an analysis approach based on techniques from the LEAN method commonly applied to industrial and service processes. The methodology is designed to extract and analyse relevant, quantitative information on key user information needs and constraints; service chain characteristics; and the scale of service operations.

These factors are combined in the modelling tools to form a 'Service Model' supporting 'what if' analysis. User organisation service delivery scenarios are then analysed to identify key factors and constraints (e.g. the ability to meet service level agreement lead times, the adequacy of DAP data provision, etc.), which allow an assessment of service sustainability and the evaluation of different organisational options for infrastructure.



Value Stream Maps (left) are used to model a selection of GMES services and underpin user-friendly Scenario Models (right)

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