

ConnectinGEO



A Goal-Based Approach to Link the Sustainable Development Goals to Essential Variables

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Germany





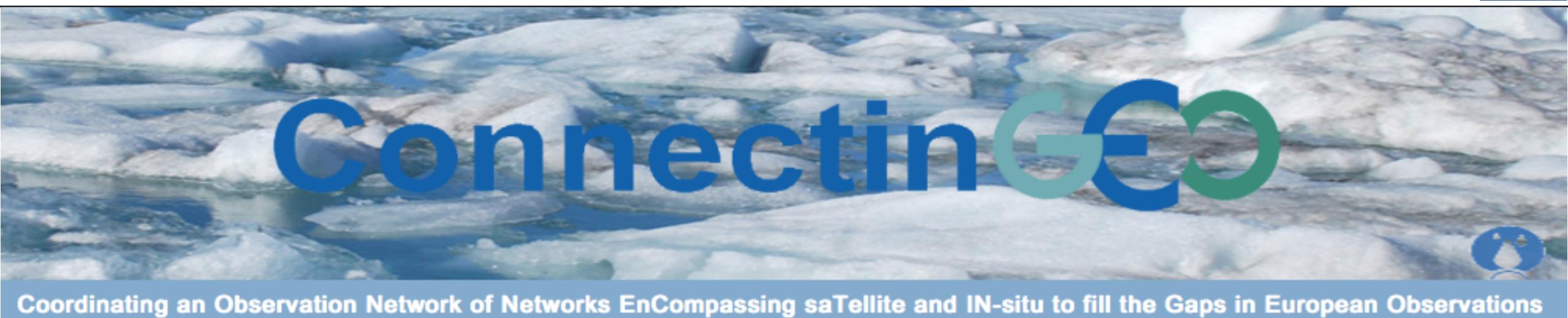






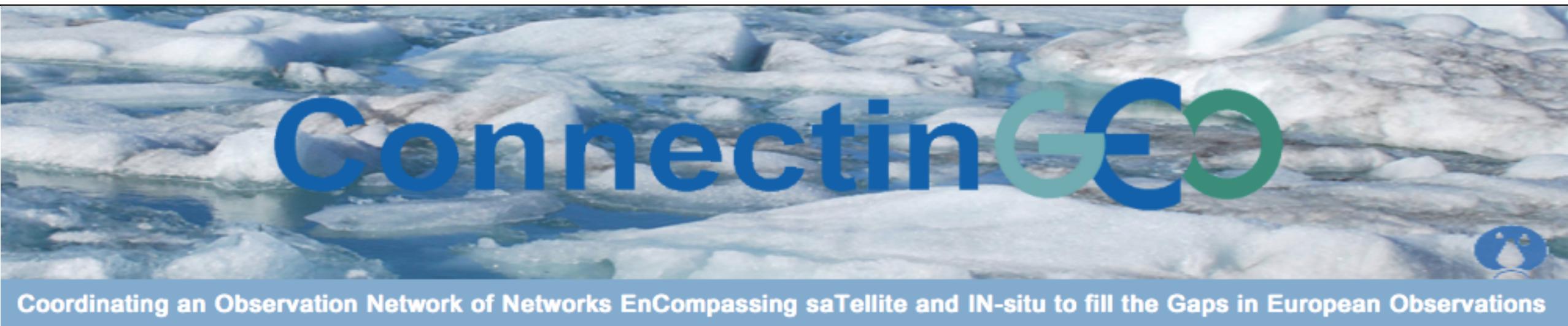








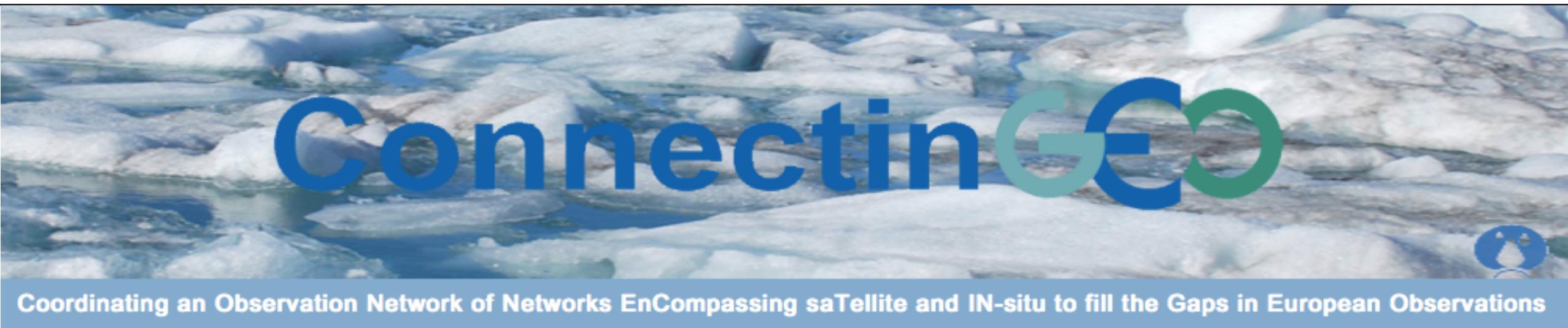




ConnectinGEO's main goal is to link existing coordinated Earth Observation networks with science and technology (S&T) communities, the industry sector and the GEOSS and Copernicus stakeholders.







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- coordination
- "goal-based" approach to the identification of Earth observation needs
- gap analysis











Goal-Based Approach:

• "goal-based" approach to the identification of variables that are essential for the monitoring of progress towards societally agreed-upon goals

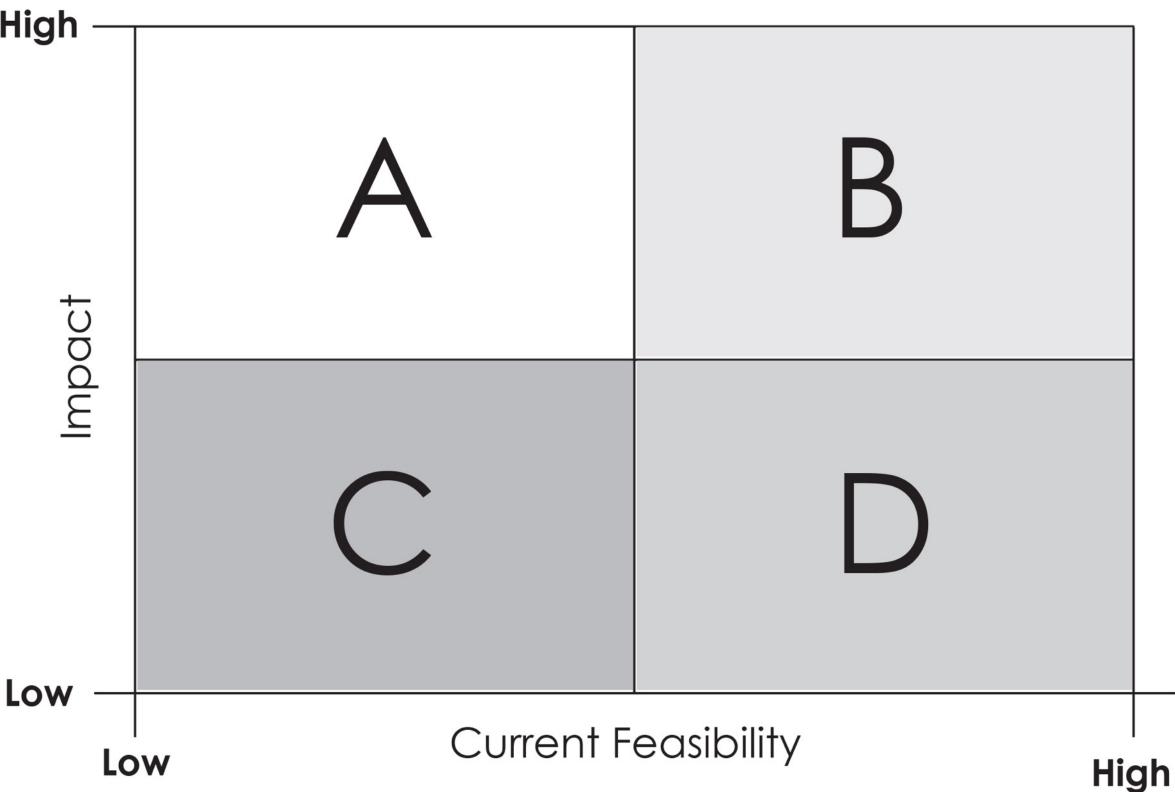






Goal-Based Approach:

- "goal-based" approach to the identification of variables that are essential for the monitoring of progress towards societally agreed-upon goals
- complementary to "expert-based" approach High



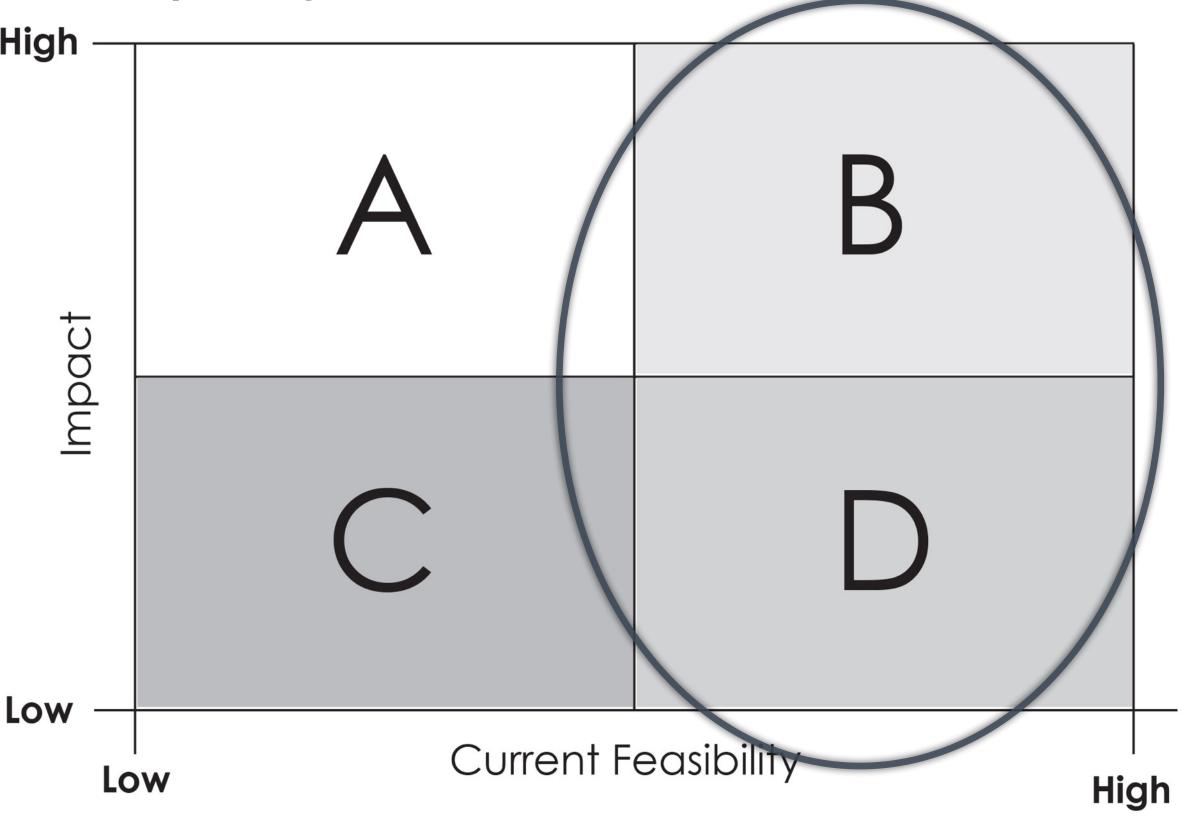




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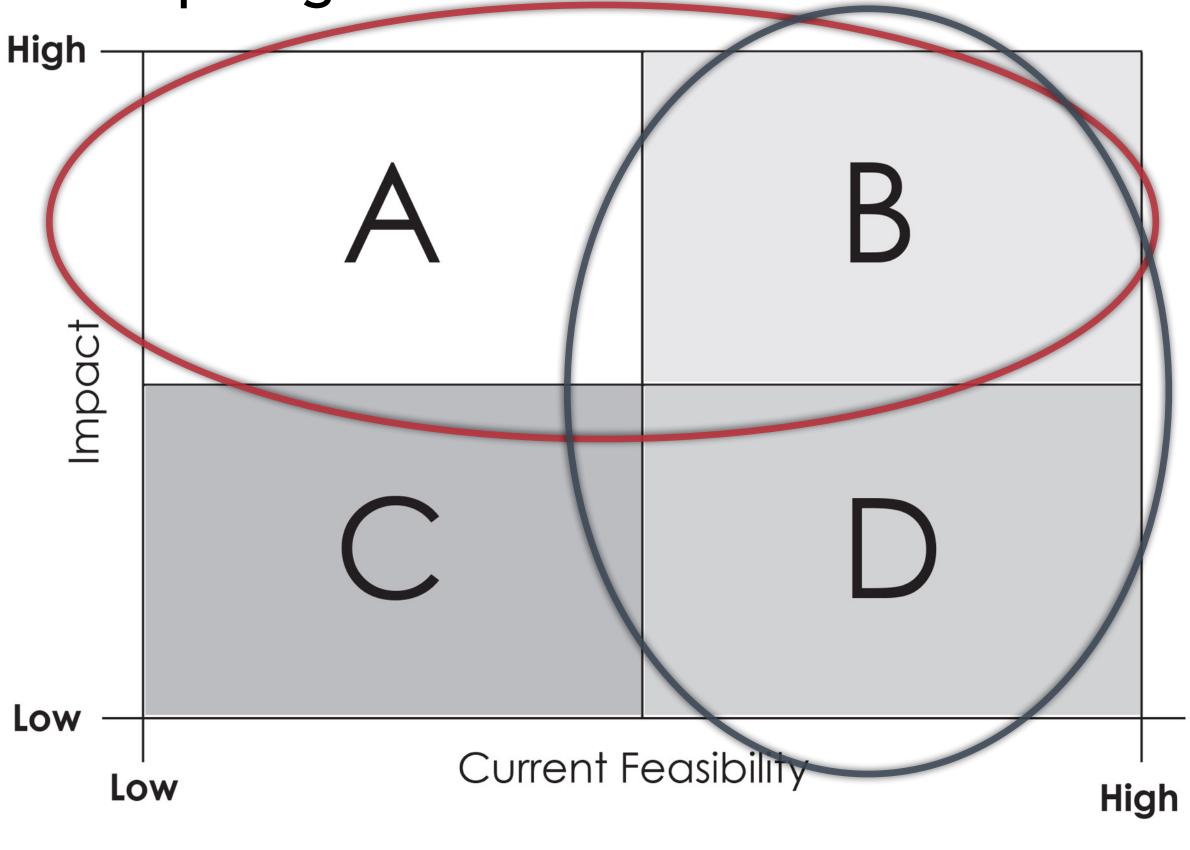




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Essential Variables:

A set of Essential Variables EVs is a minimal set of variables that determine the system's state and developments, are crucial for predicting system evolution, and allow us to define metrics that measure the trajectory of the system.







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Essential Variables:

A set of Essential Variables EVs is a minimal set of variables that determine the system's state and developments, are crucial for predicting system evolution, and allow us to define metrics that measure the trajectory of the system.

Limited knowledge of essential variables implies limited predictive capabilities and limited means to measure and assess where the system is heading.















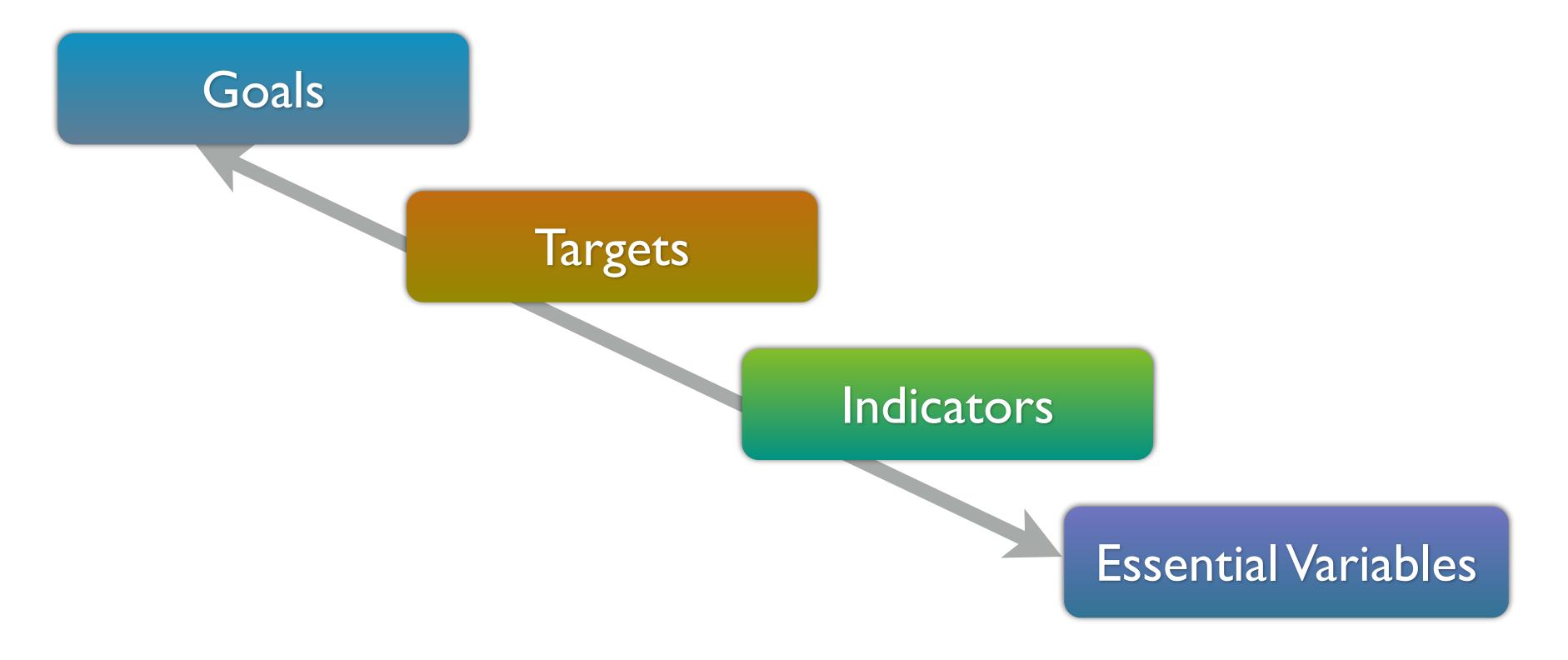
Targets

Indicators





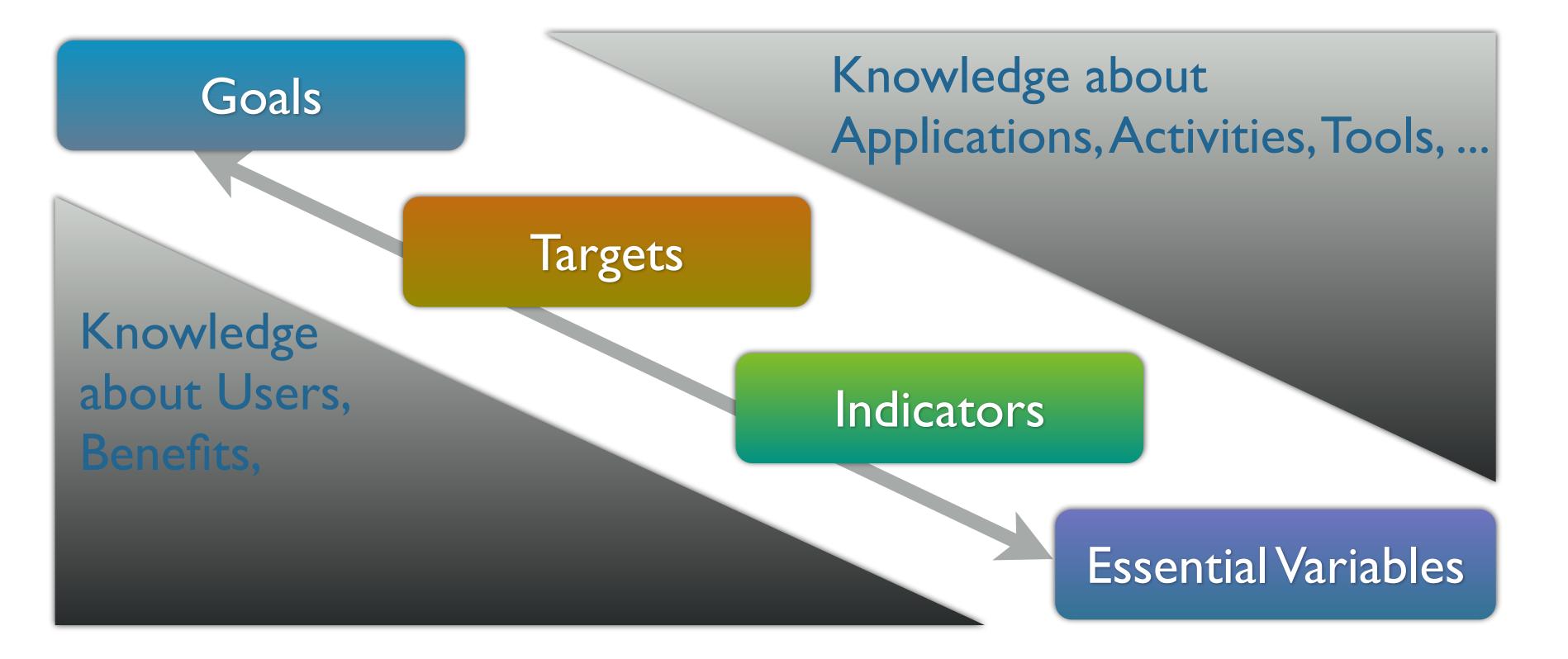








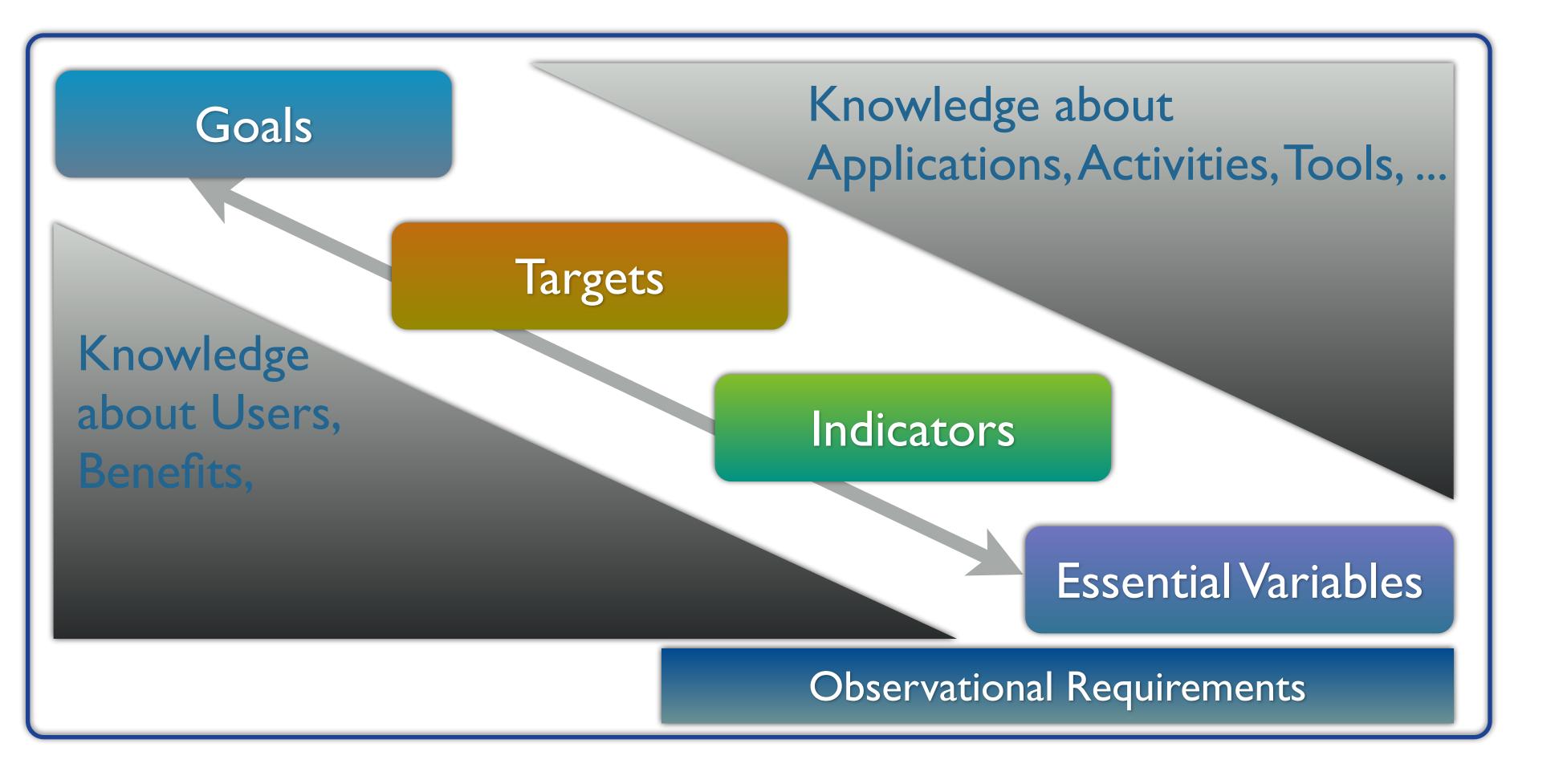








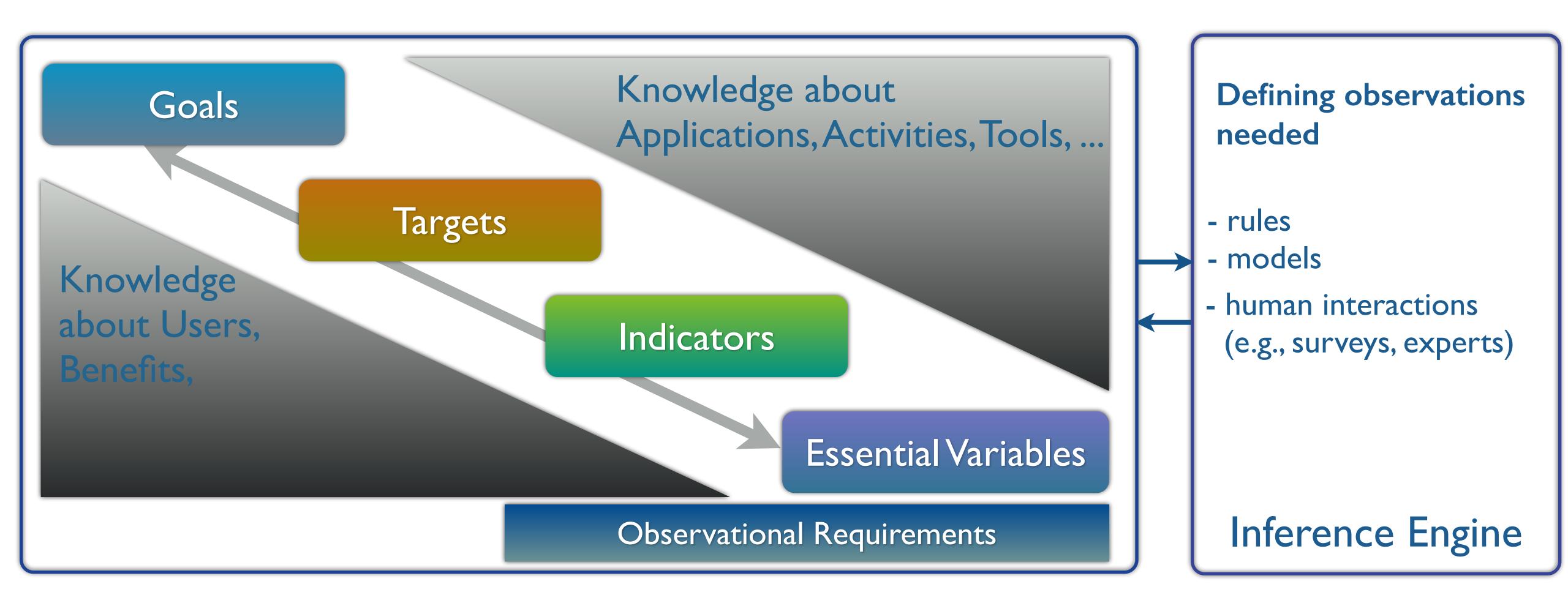








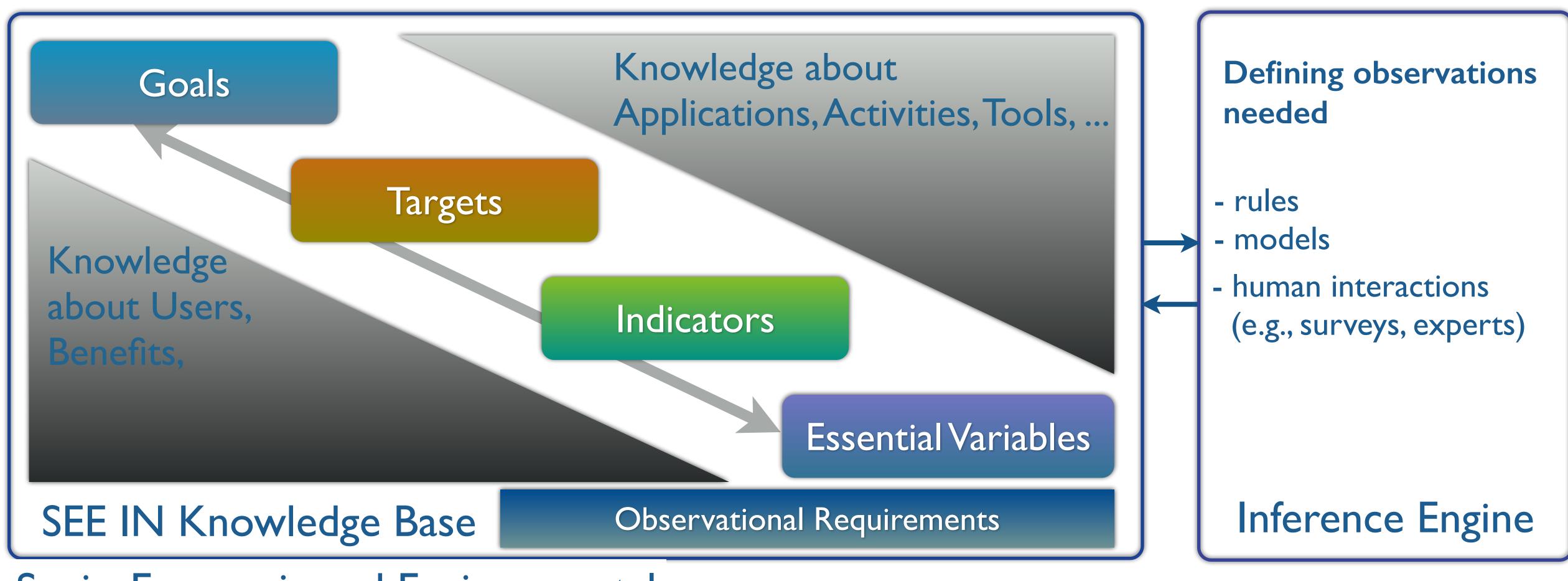










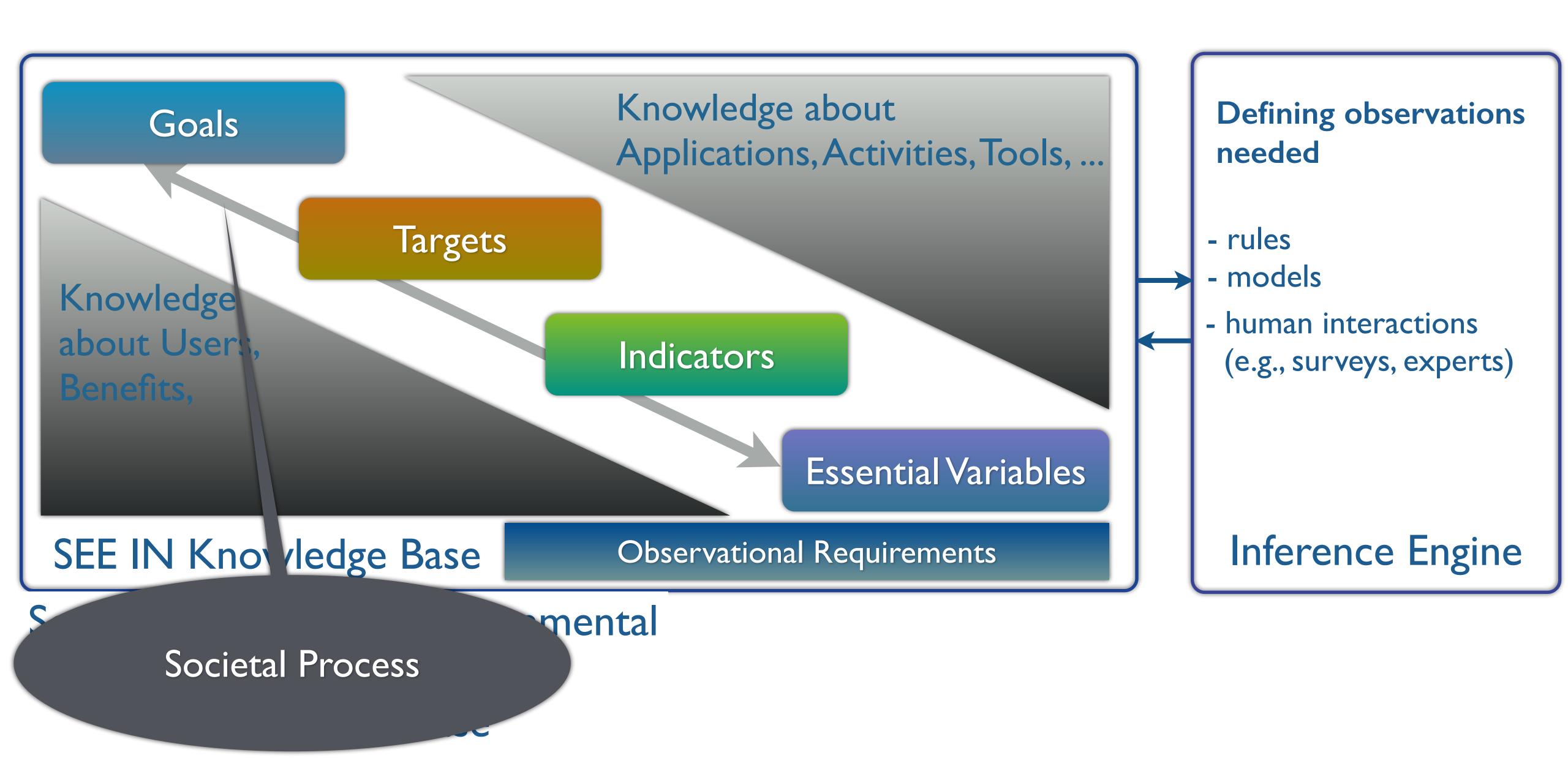


Socio-Economic and Environmental Information Needs
Knowledge Base





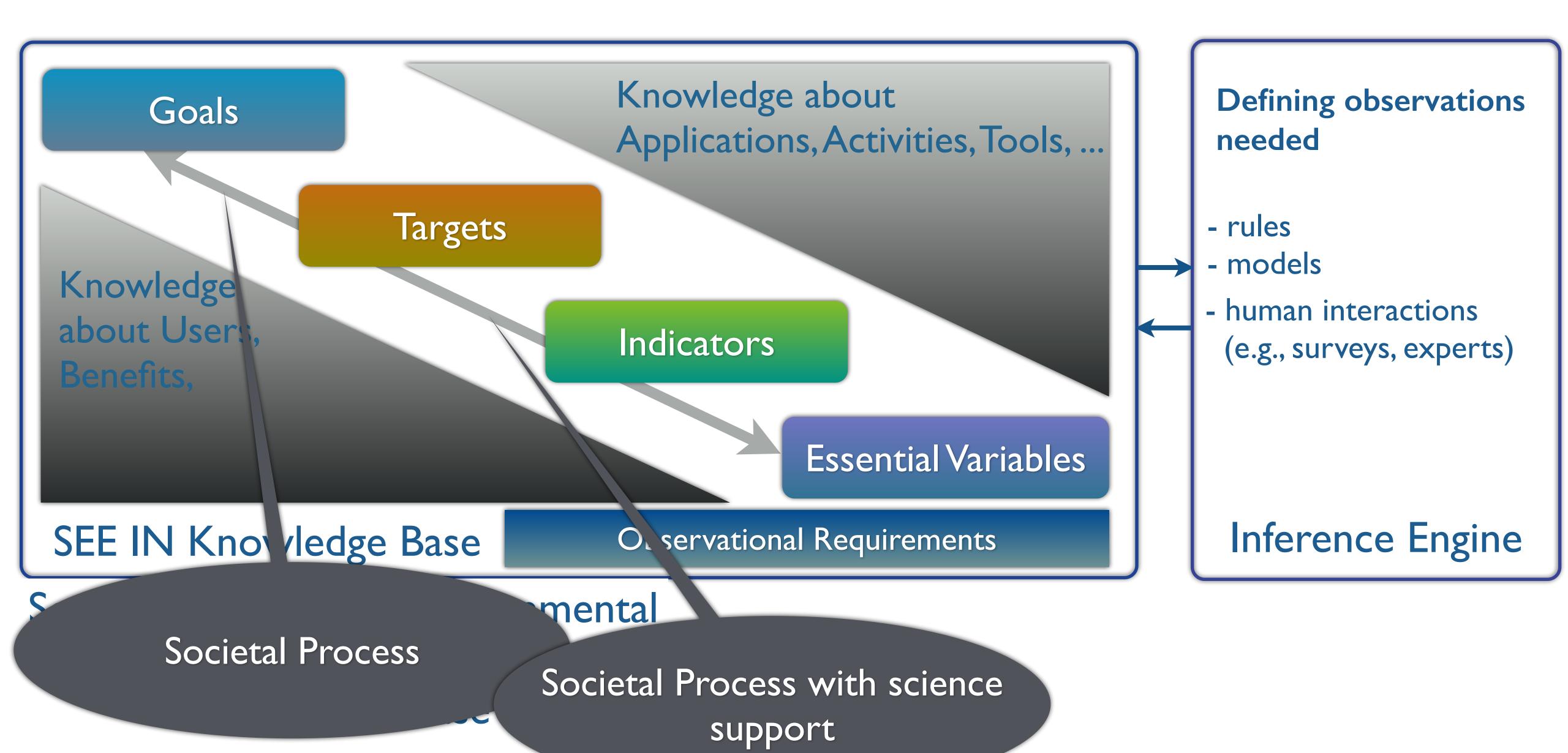








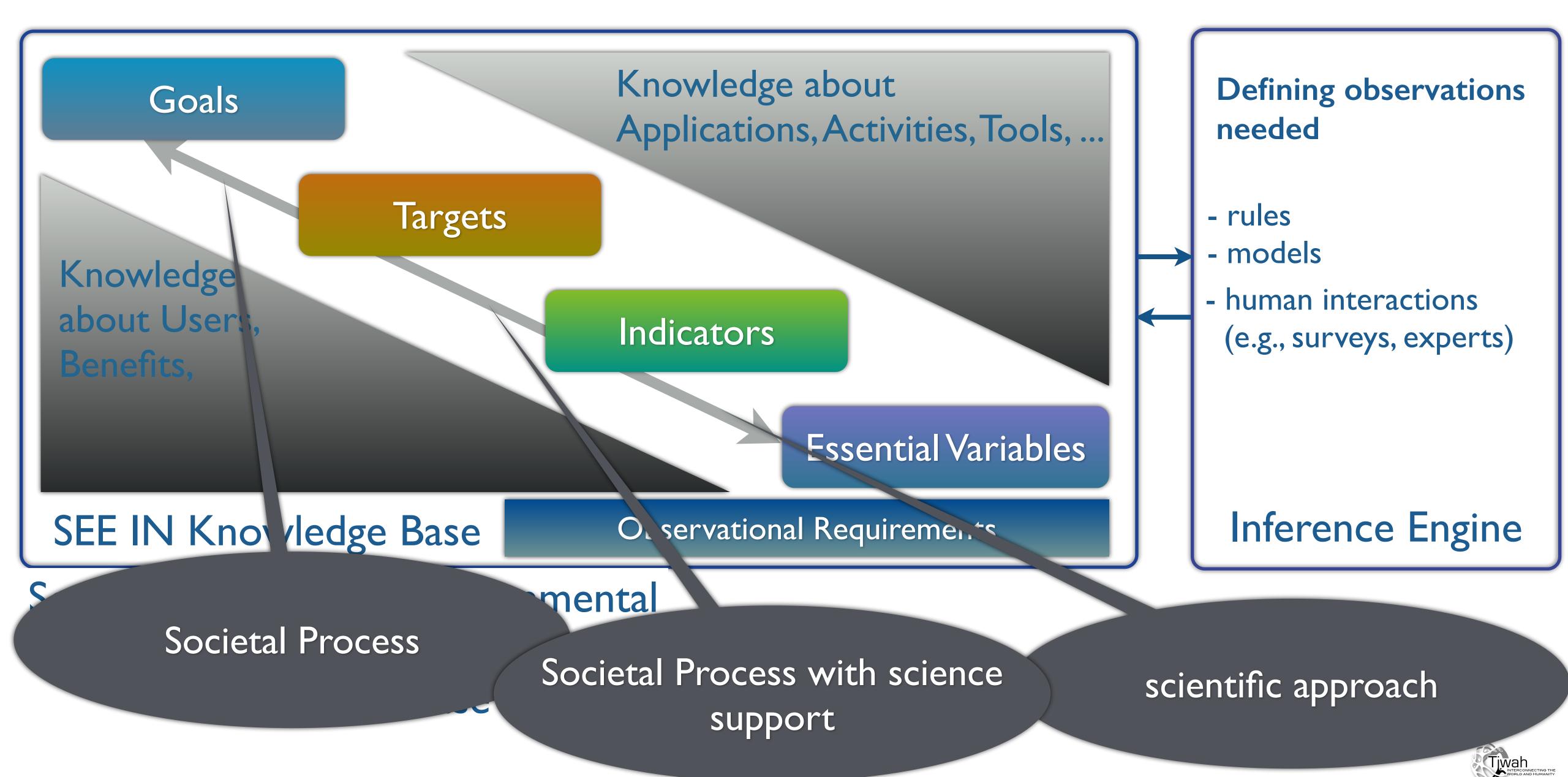






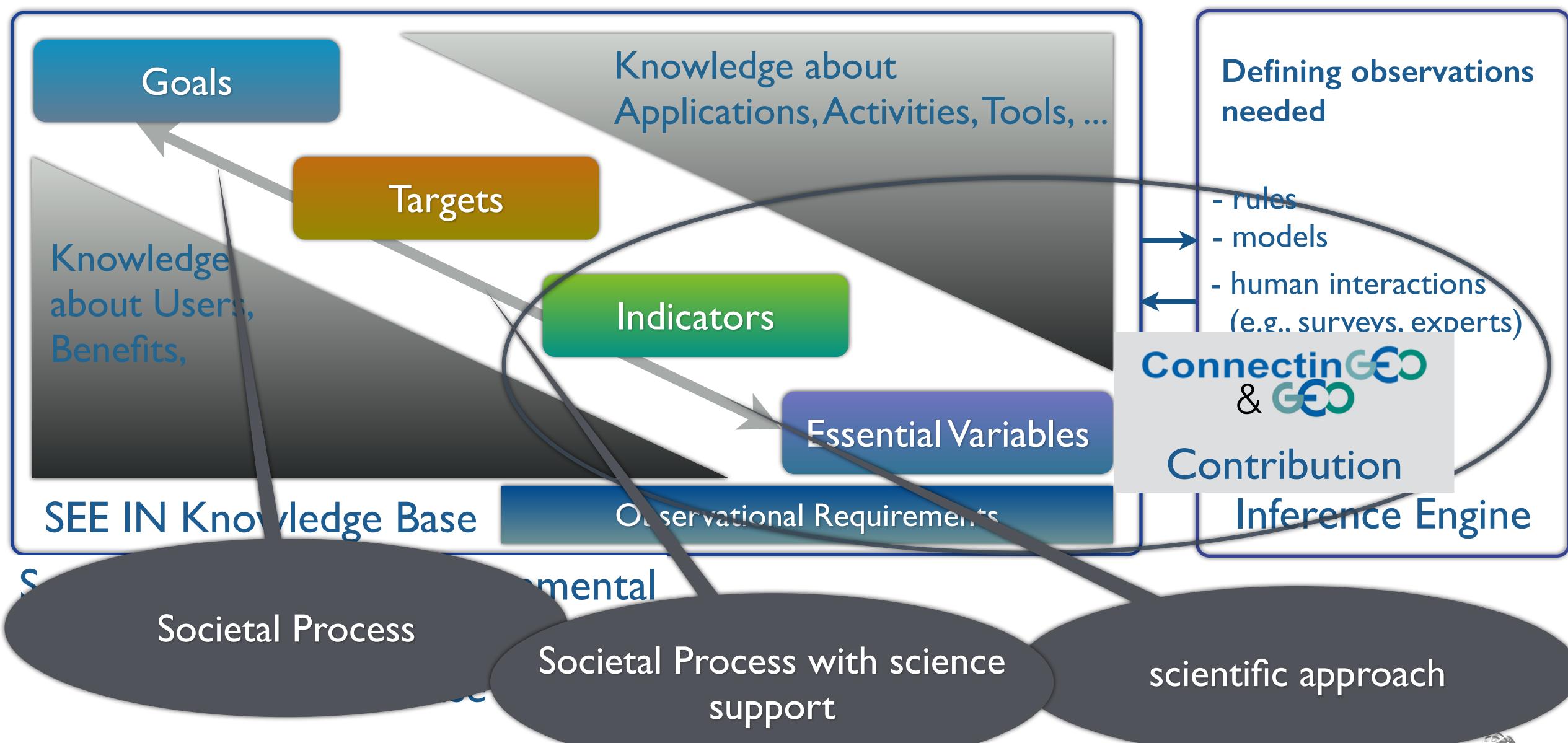








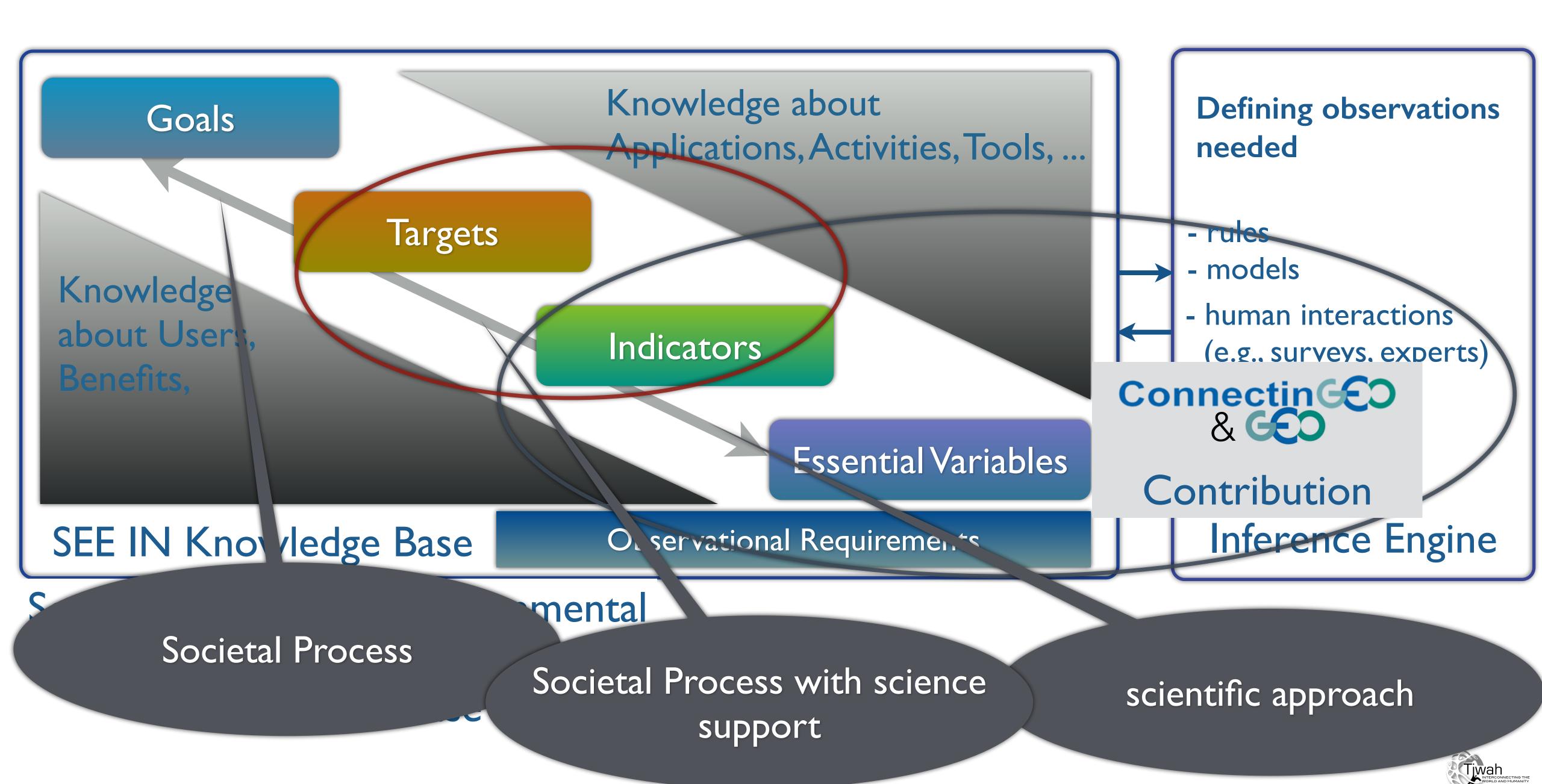


















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SUSTAINABLE CONTROLL DEVELOPMENT





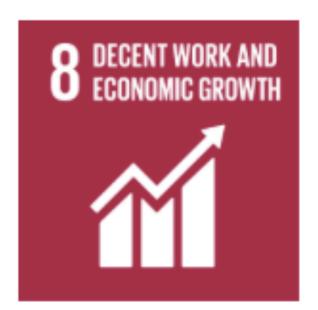
























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SUSTAINABLE GALS





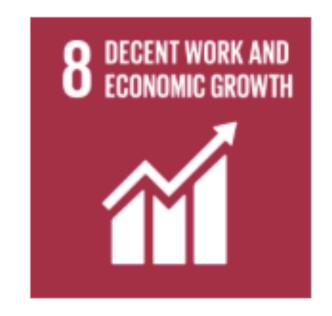


































Ensure availability and sustainable management of water and sanitation for all

TARGETS

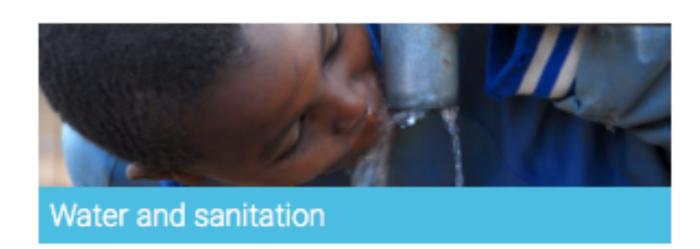
6.1

By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2

By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

RELEVANT TOPICS



6.3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6

By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a

By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b

Support and strengthen the participation of local communities in improving water and sanitation management



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- 6.3.1 Percentage of wastewater safely treated
- 6.3.2 Percentage of bodies of water with good ambient water quality

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By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

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Support and strengthen the participation of local communities in improving water and sanitation management









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Quantifying the Indicators



GEO GI-18:

Earth Observations in Service of the 2030 Agenda for Sustainable Development



Quantifying the Indicators



GEO GI-18:

Earth Observations in Service of the 2030 Agenda for Sustainable Development

GEO Secretariat and GI-18 prepared leaflet for 47th Session of the United Nations Statistical Commission showing the value of EOs for SDGs



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EARTH OBSERVATION AND GEOSPATIAL INFORMATION RESOURCES FOR SDG MONITORING



...

Population distribution

Cities and infrastructure mapping

Elevation and topography

Land cover and use mapping

Oceanographic observations

Hydrological and water quality observations

Atmospheric and air quality monitoring

Biodiversity and ecosystem observations

Agricultural Monitoring

Hazards, disasters and environmental impact monitoring

For more information please contact:

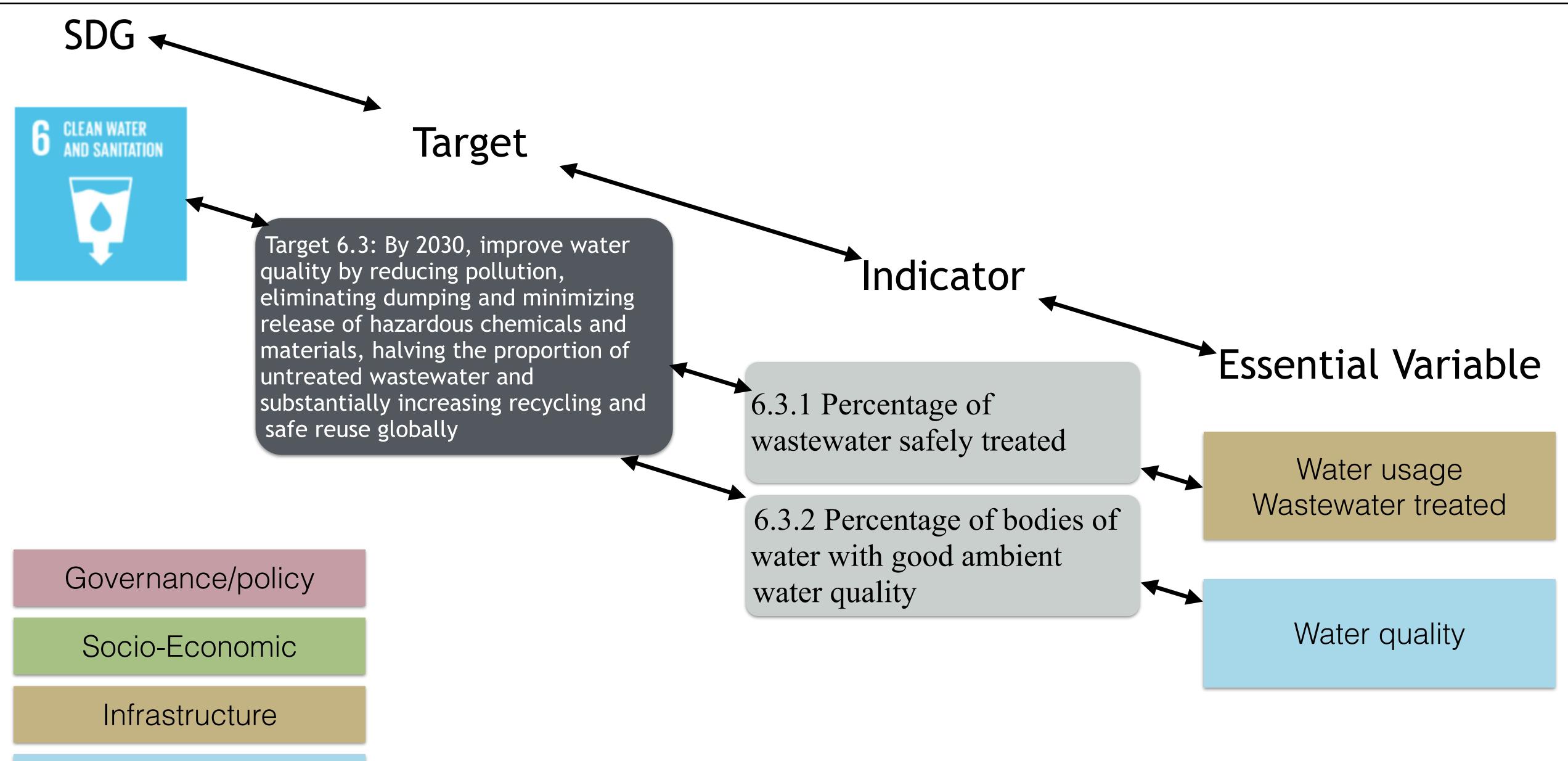
GEO Secretariat – 7 bis, avenue de la Paix, CP 2300 – CH-1211 Geneva 2, Switzerland
E-mail: secretariat@geosec.org – Telephone: +41 (0) 22 730 85 05
www.earthobservations.org



Environmental

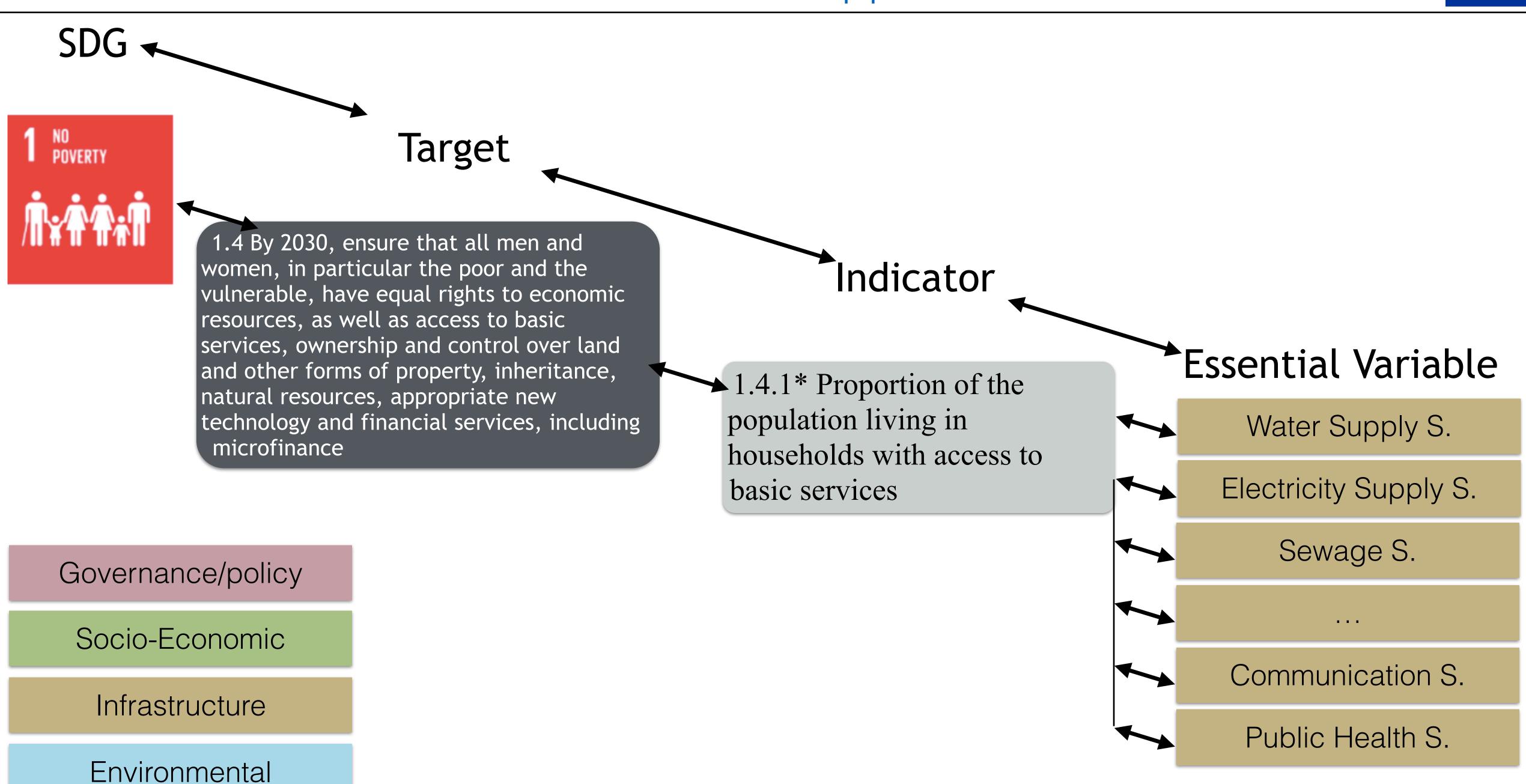
A Goal-Based Approach ...



















SDG Indicators and Earth Observations





SDG Indicators and Earth Observations

Applied "goal-based" approach to identify Essential SDG Variables (ESDGVs):

• Several SDG indicators require Earth observations (EOs) and geospatial information:





SDG Indicators and Earth Observations

- Several SDG indicators require Earth observations (EOs) and geospatial information:
 - Is GEO providing what is needed to quantify these indicators?





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Targets and Essential Variables





SDG-3 Ensure healthy lives and promote well-being for all at all ages

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

- Current indicators:
 - 3.9.1 Mortality rate attributed to household and ambient air pollution
 - 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services)



Targets and Essential Variables





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 - 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services)
- Focus is on the impacts and outcomes
- Mortality is not a good indicator because:
 - There is an accumulative effect that generates a huge time delay
 - A decrease in mortality can happen even if pollution is increasing in the short term.
- SDG indicators do not account for the relation between pollution and mortality. EC directives in place do account for this







47th Session of the UN Statistical Commission:

- •
- (c) Agreed on the revised terms of reference of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), as presented in annex I of the report;
- (d) Agreed **as a practical starting point with the proposed global indicator framework** for the Goals and targets of the 2030 Agenda for Sustainable Development as reflected in the list of indicators presented in annex IV of the report, subject to future technical refinement;
- (e) Requested the IAEG-SDGs to take into account the specific proposals for refinements of indicators made by Member States during the discussion;
- (f) Recognized that the development of a robust and high-quality indicator framework is a technical process that will need to continue over time, including by making use of expertise in other related expert processes, and requested the Inter-agency and Expert Group on Sustainable Development Goal Indicators to provide its proposals and a plan for reviews of the indicator framework, to the 48th session of the Statistical Commission;





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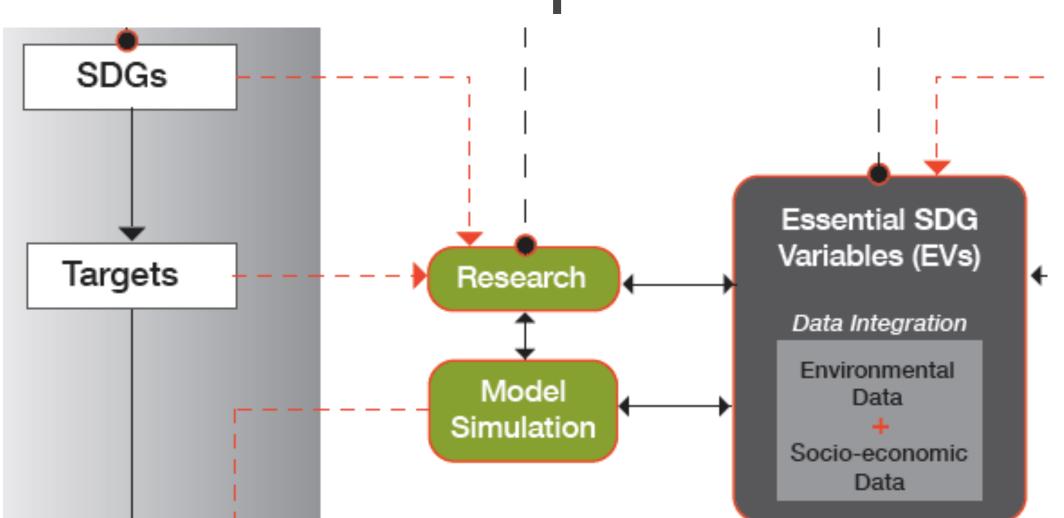
Support for Implementation







- Data integration in support of research
- Data-driven simulation: "What if" questions
- Models for the socio-economic and environmental coupled system (Model Web)
- Agent-based models to account for human behavior
- Geo-Design for integration and change
- GEOSS Knowledge Base: Linking decision and policy makers to EO-derived knowledge







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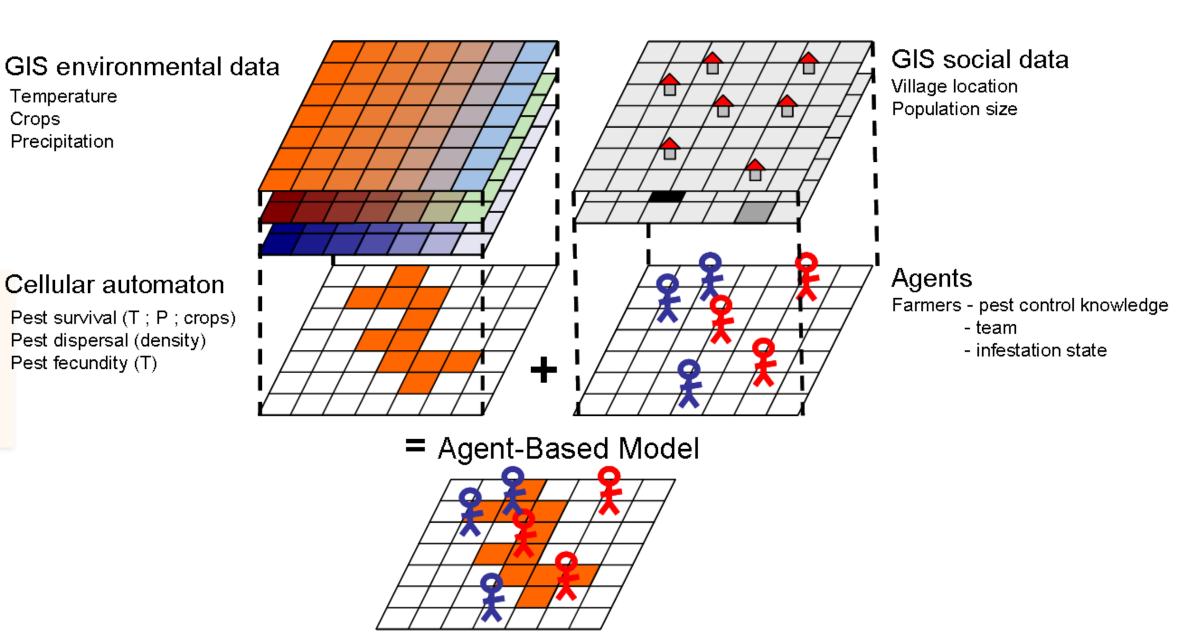
Temperature

Precipitation





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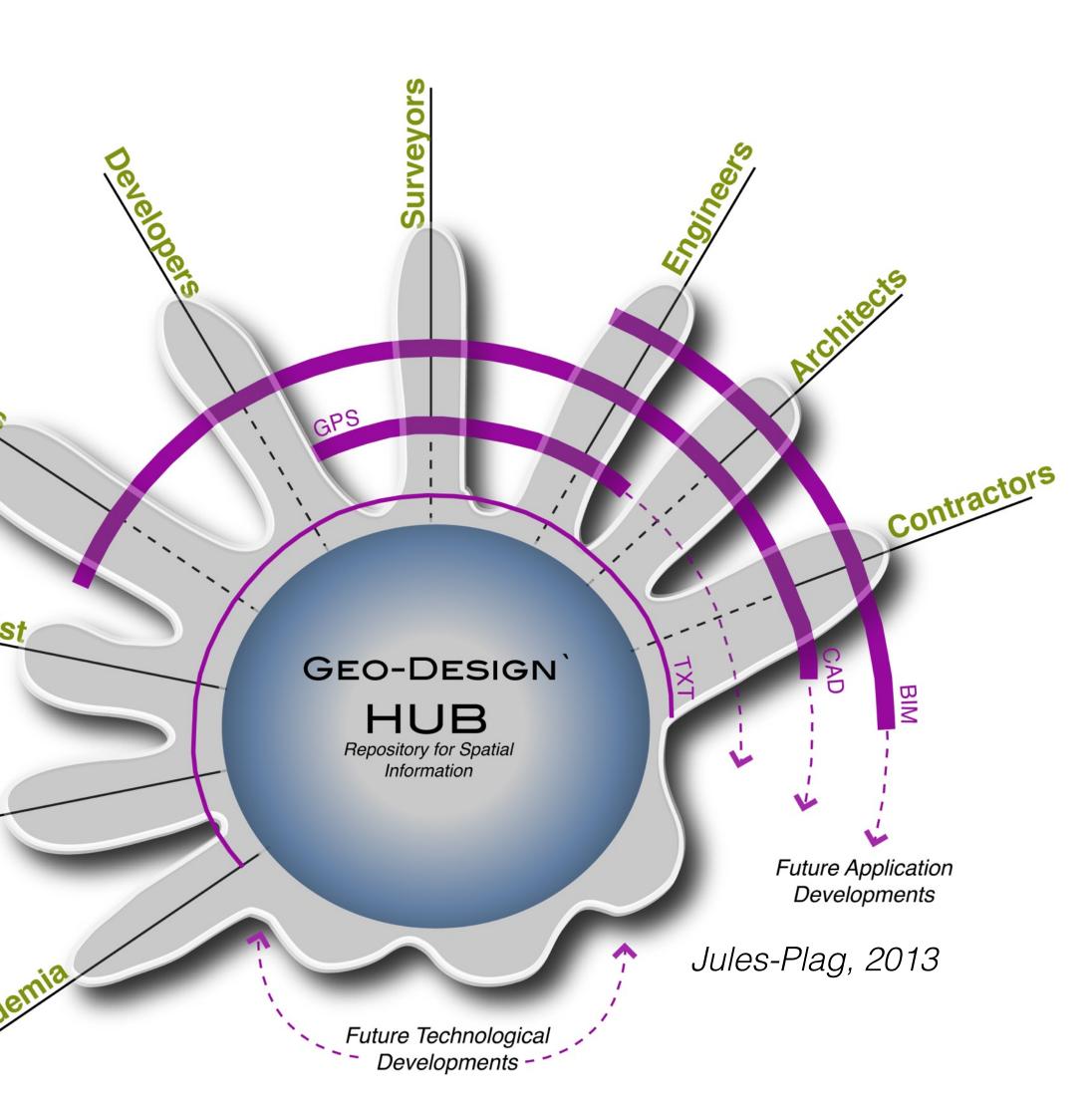
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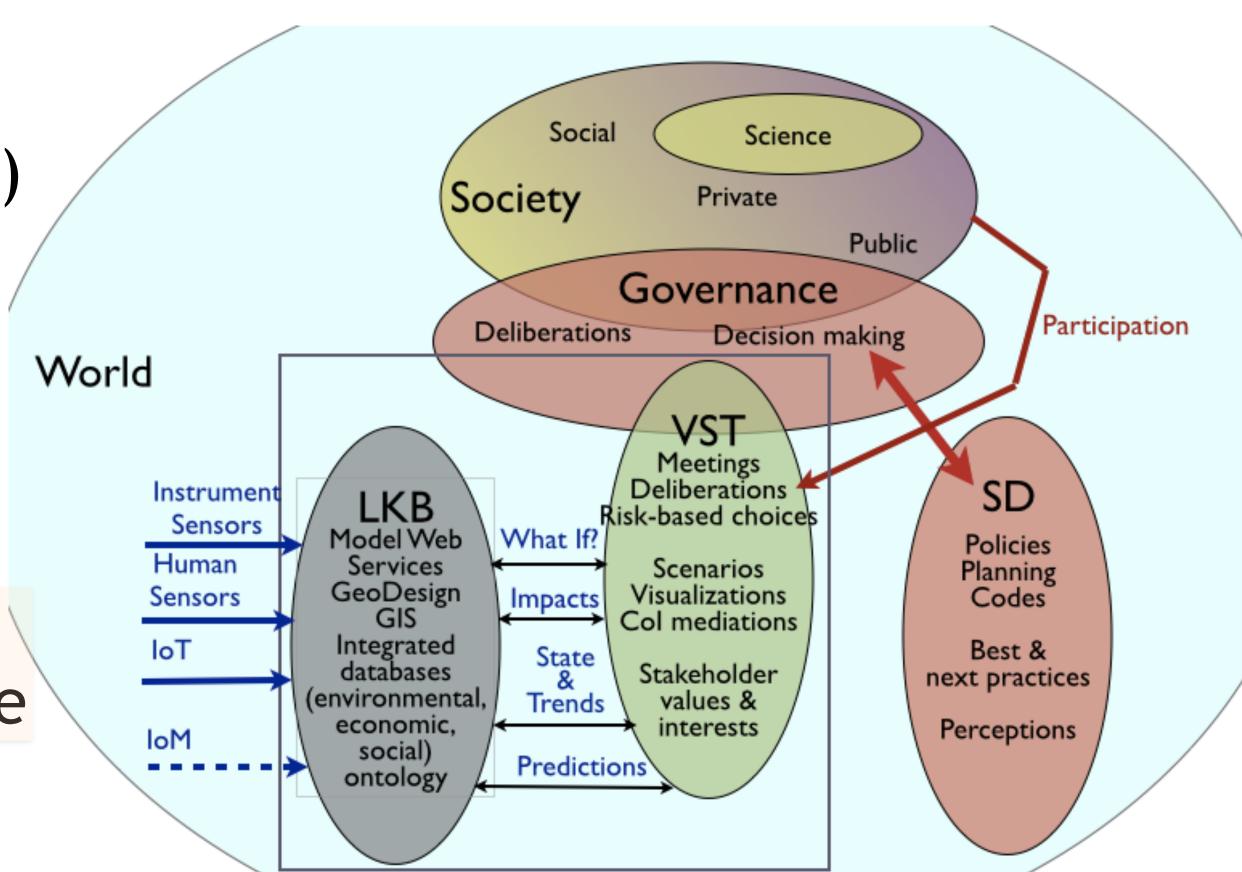
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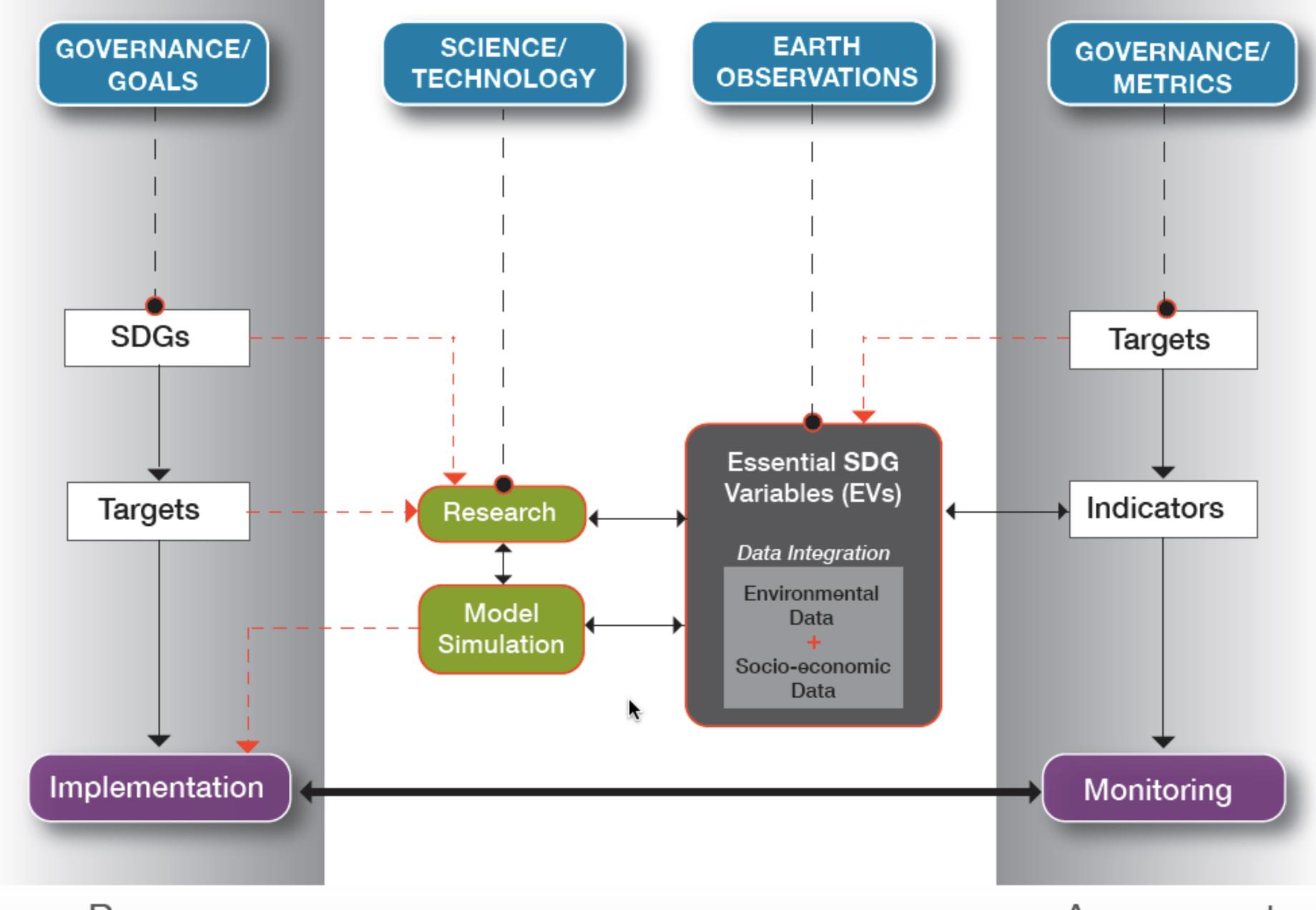


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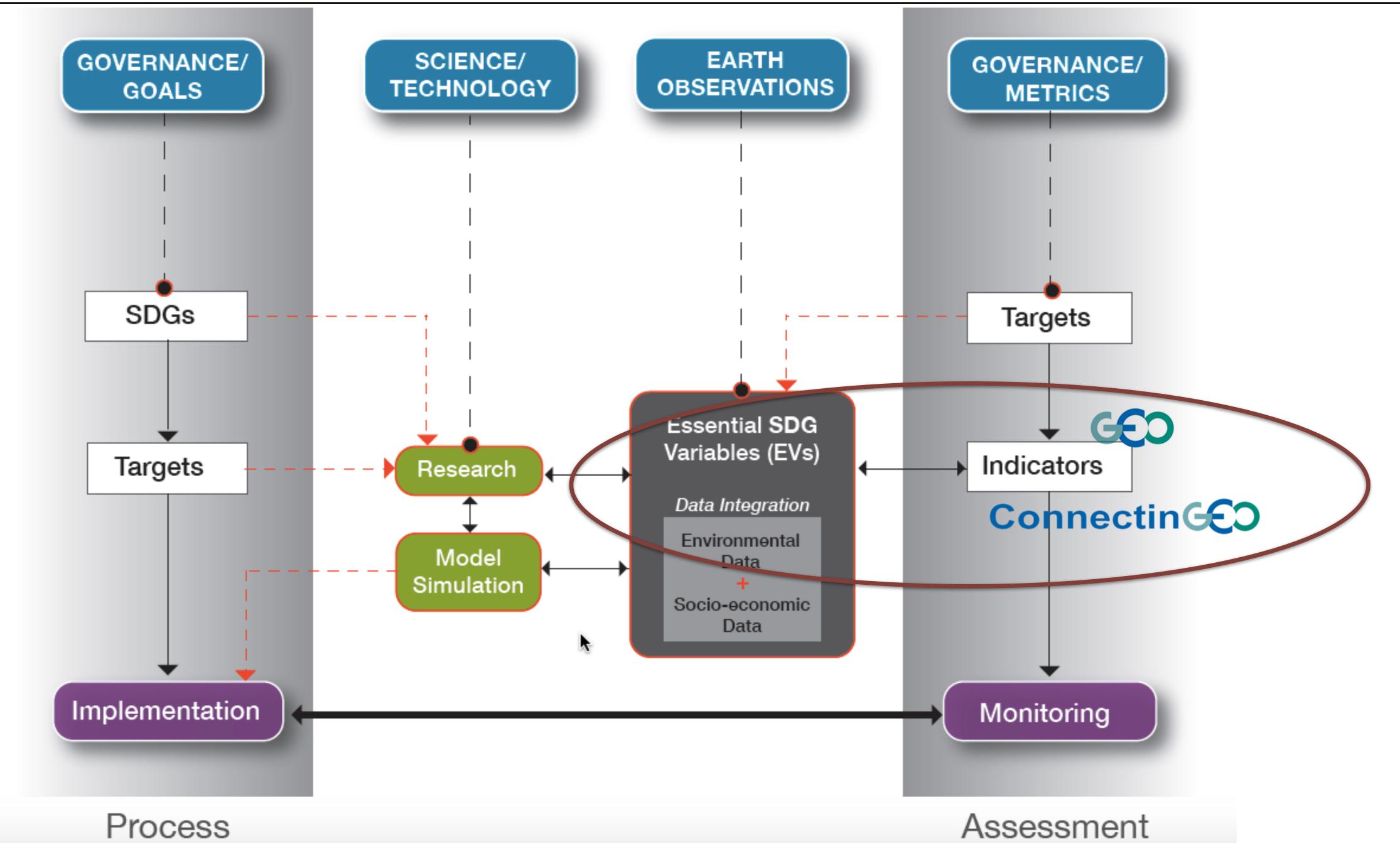


Process

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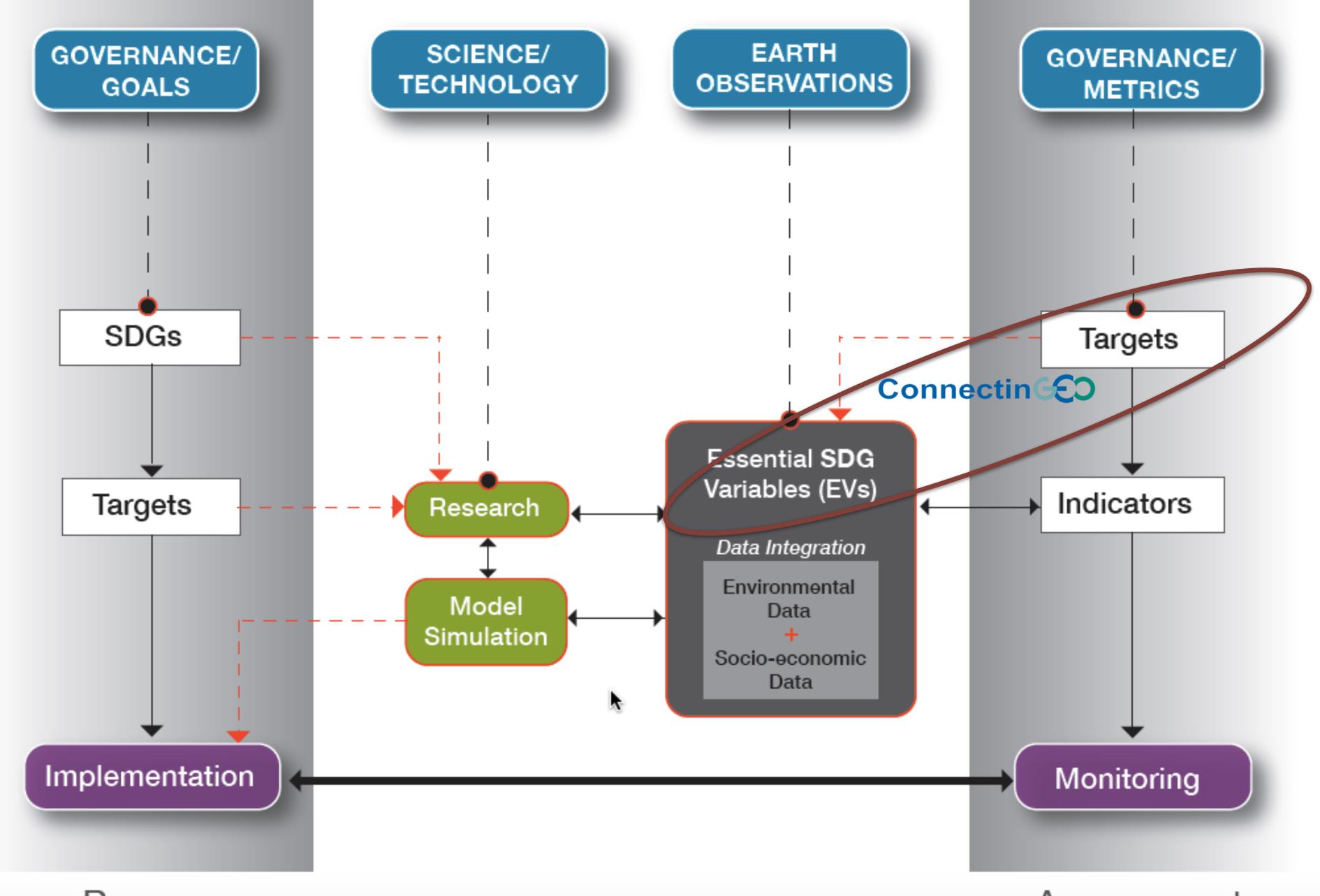










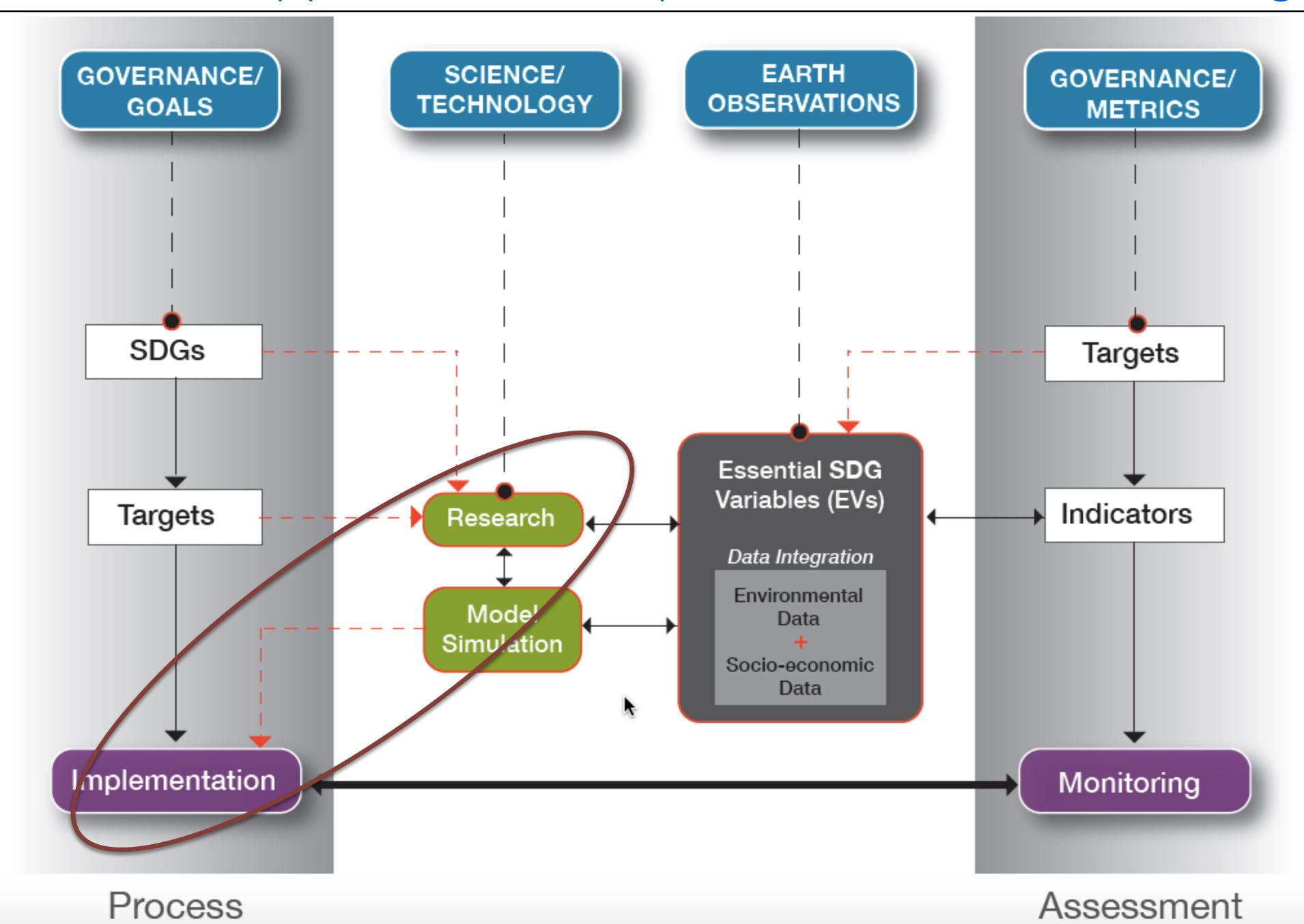


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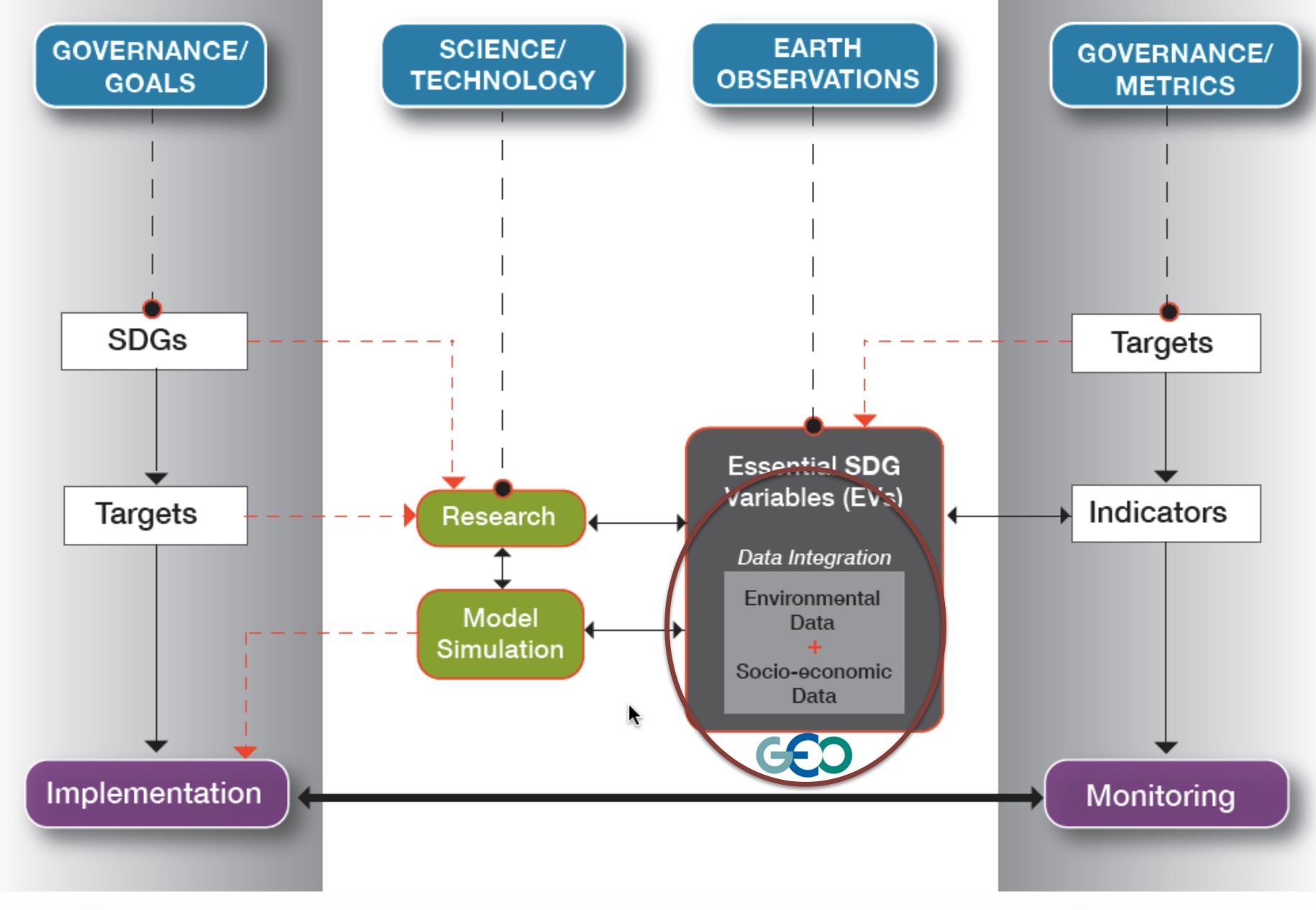












Process

Assessment



Summary





Summary



- Current indicator framework is biased towards socio-economic variables
- Several indicators benefit for integration of environmental and socio-economic data: GEO and GI-18
- Monitoring of progress towards targets would benefit from EO-based indicators: Interaction with IAEG-SDGs
- Design and implementation of actions to reach the targets needs broad support from science and Earth observations: Objective of GI-18?





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Thanks

Time for discussion with the Panel