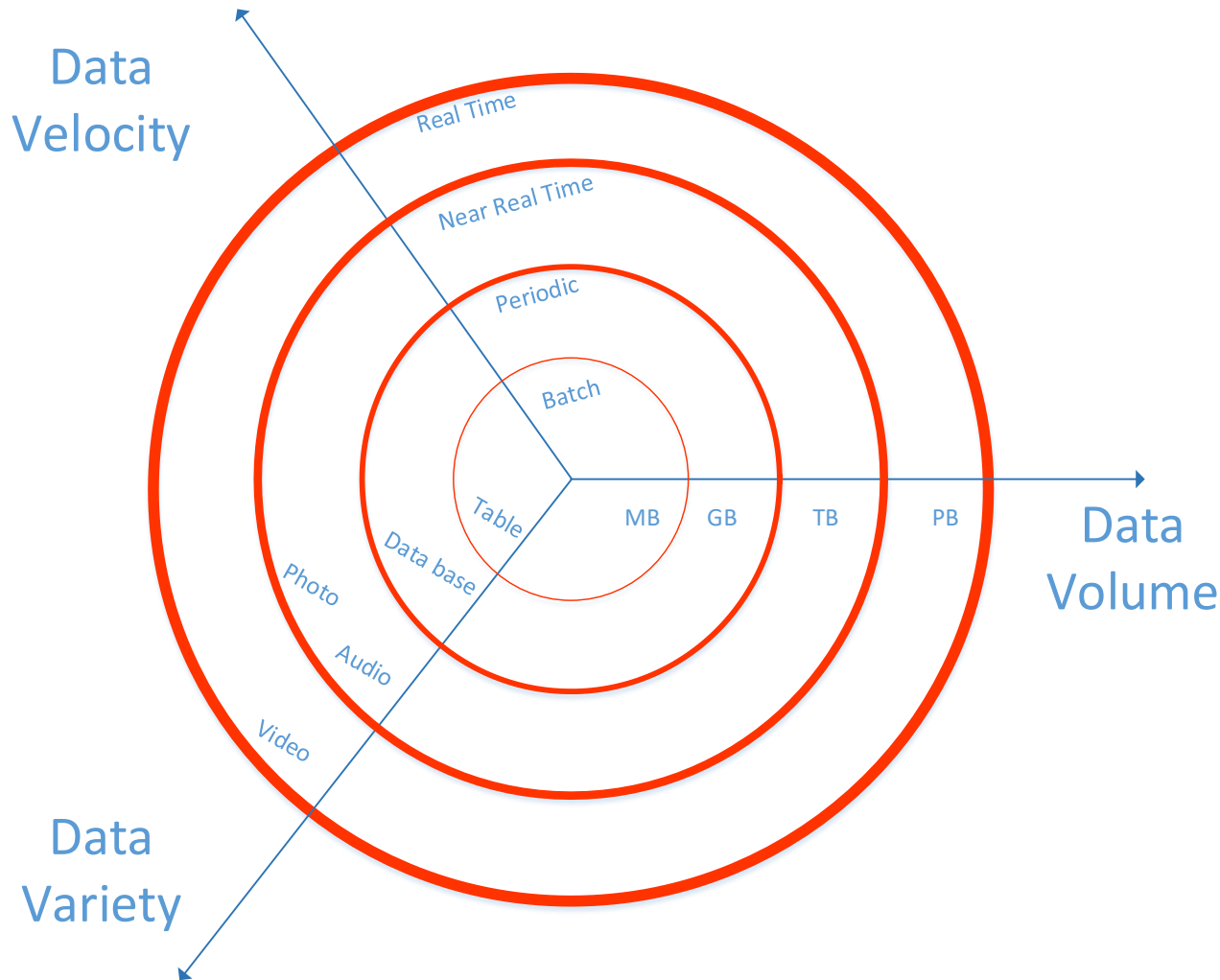


Basic concepts in transportation informatics

Information boom – Big Data – 3 directions of expansion



VOLUME is the size of the data being collected

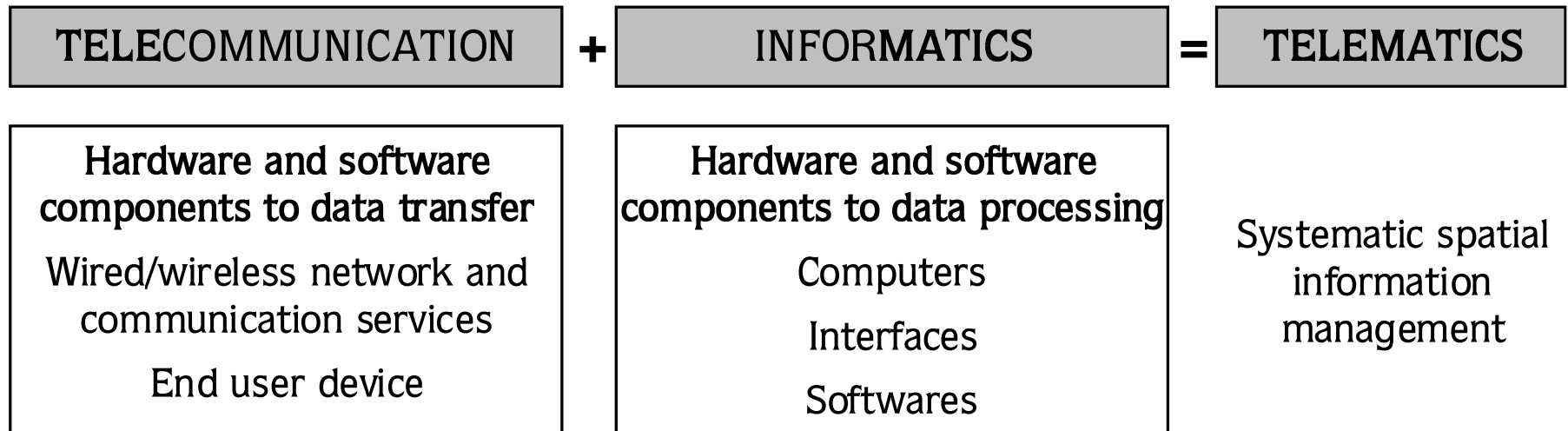
VELOCITY is the speed at which data is flowing, the ability of software solutions to receive and process data

VARIETY refers to different data format, and the challenge to be able to organize raw, (un)structured data

- **theoretical**
- **practical**
- **technical**

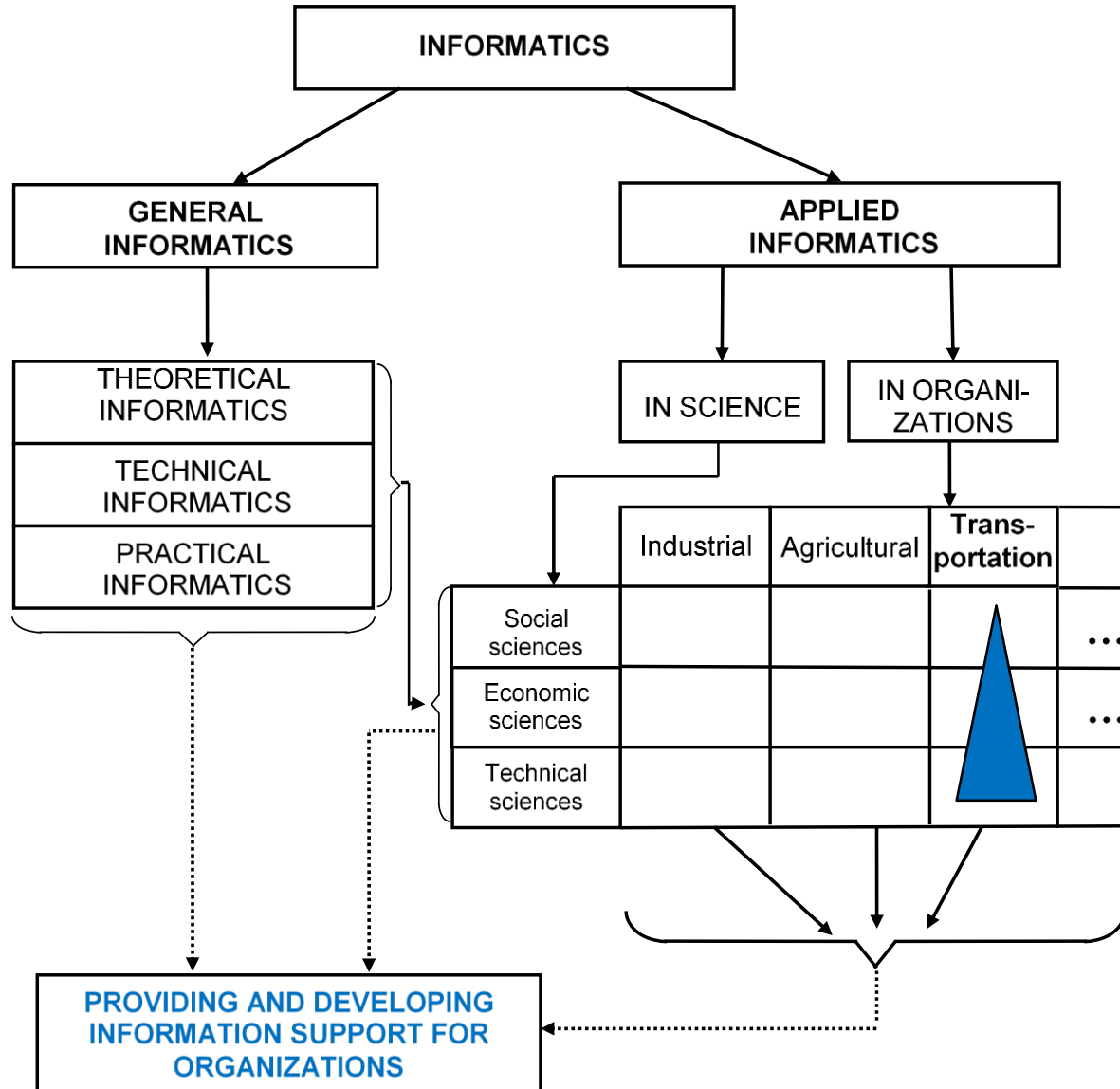
informatics

Definition of informatics, transportation
informatics
technological and theoretical antecedents

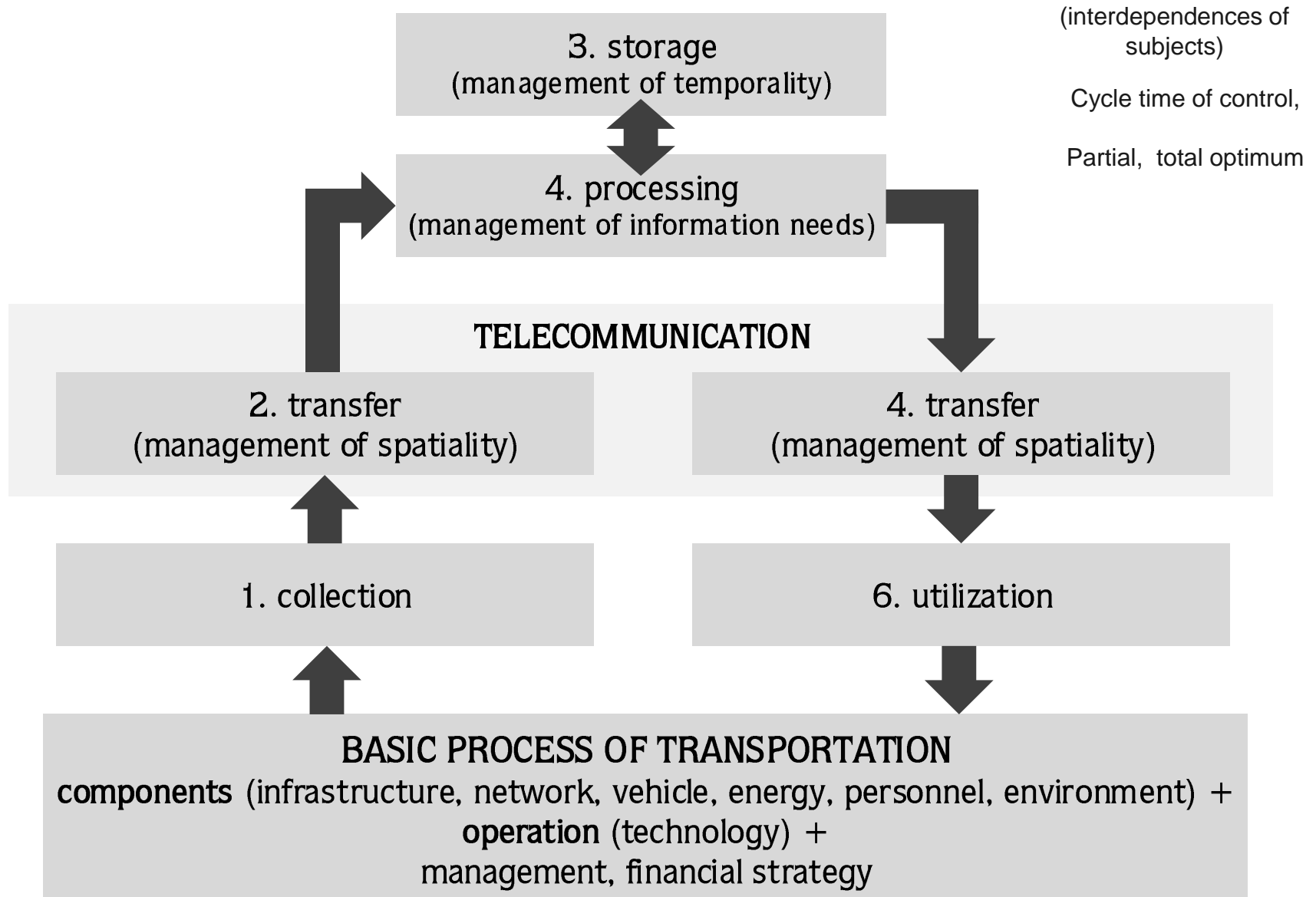


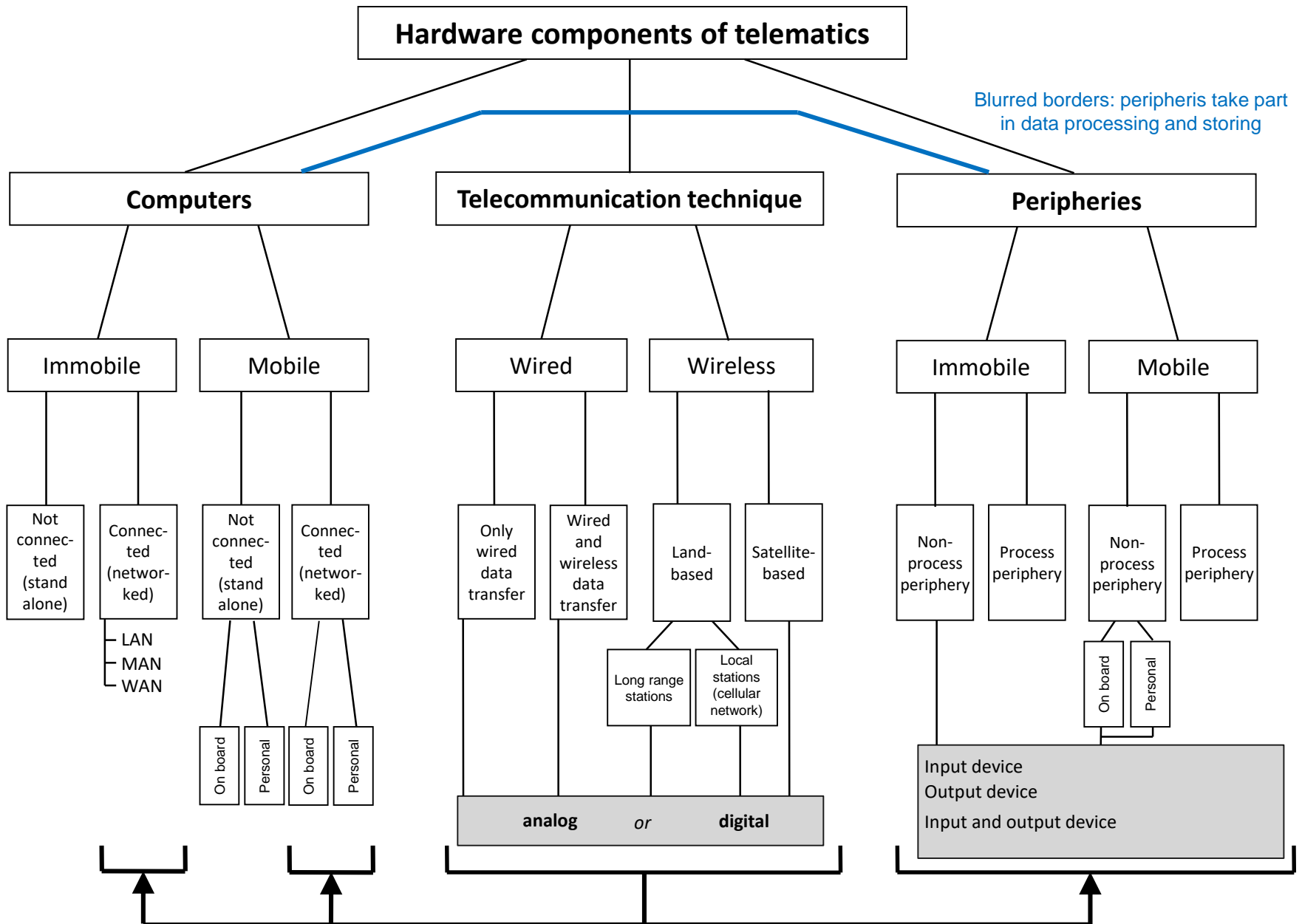
informatics ≠ totality of different informatics solutions

Partitioning of informatics

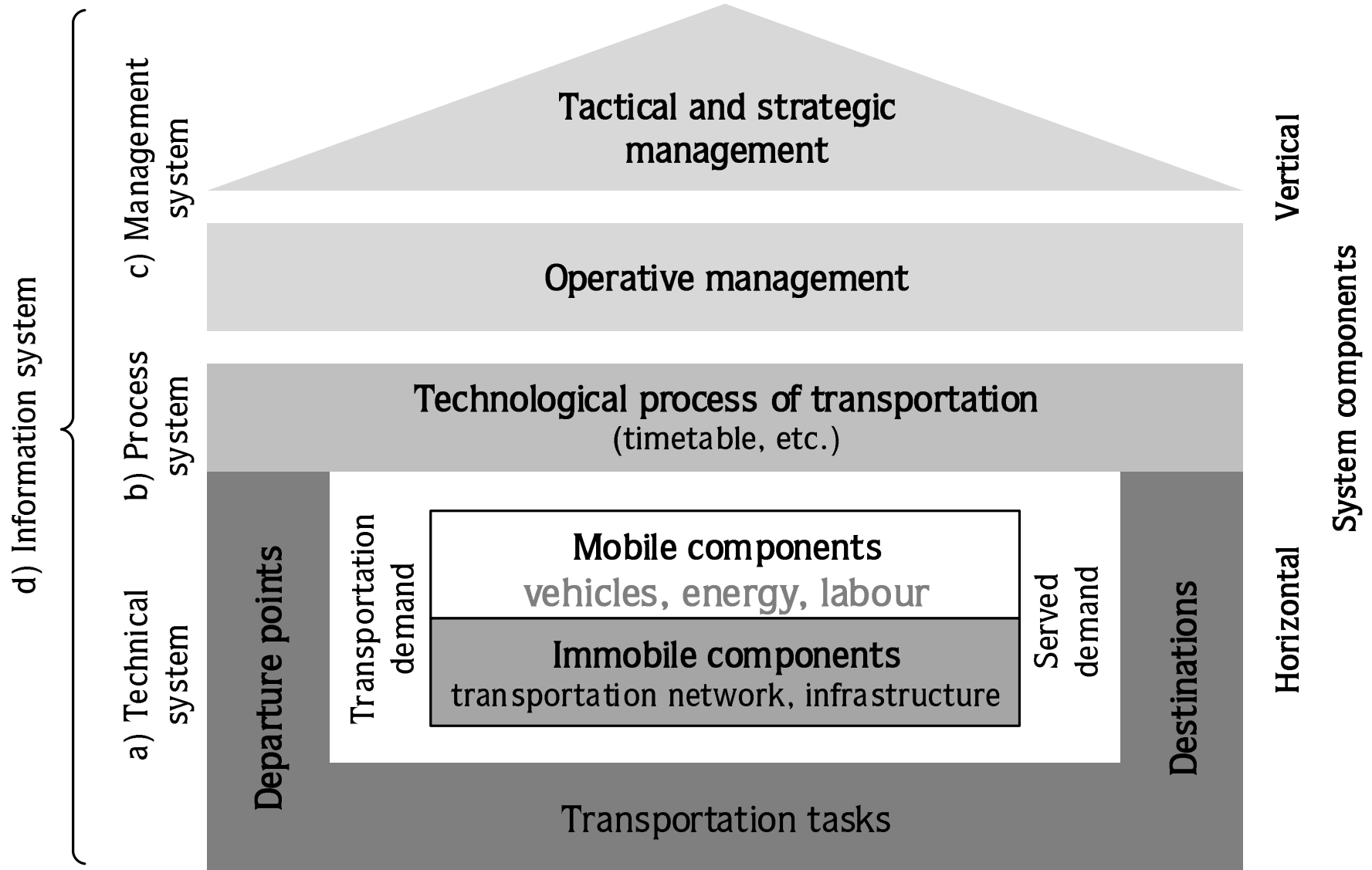


Control loop in informatics

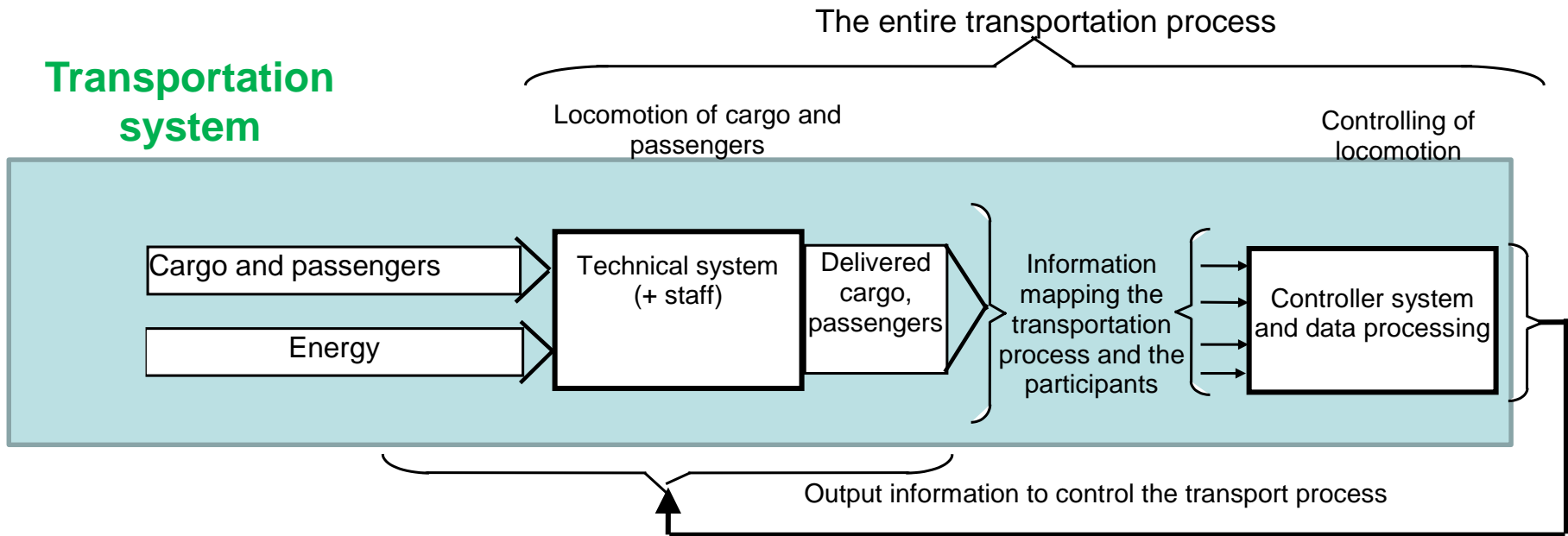




Structure of transportation system



Partitioning transportation systems into material, energy, and controlling sub-systems



- Technical system of transportation
 - Power supply system
 - Track and installed objects
 - Vehicle and material handling devices
- Process system of transportation
 - Cargo and passengers, locomotion of means of transportation, basic process
- Management system
 - Control of transportation process
 - Control of organizations

Based on these:

- Informatics system

System and process-oriented approach required when elaborating the data model

Grouping the components of transportation systems

Structure	Operation	
<ul style="list-style-type: none"> information, data, database information management components: software, hardware 	<ul style="list-style-type: none"> recording, transferring, storing, processing, utilization 	Information system machine components
<ul style="list-style-type: none"> transportation network, infrastructure (track, immobile devices) vehicles, energy, labour travellers 	<ul style="list-style-type: none"> main function (transportation) accessory functions 	Material-energy system components