A New Planning Stage

A Methodology to Analyze Logistics Chains in the Integration and Development Hubs (EIDs)

Buenos Aires, June 29th, 2006












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  - Linking the logistics analysis in corridors with the Sectoral Integration Process
  - For the medium term

Planning Process in the Integration and Development Hubs: The Business Vision

- The EID's Business Vision has enabled us to **approach** the infrastructure-related planning process from **the demand or user's perspective**.
- **Current and potential producers** that make use of existing or planned infrastructure have been identified.
- The exercise suggested **there were logistics chains and trade relations resulting in physical flows** in the EID's area of influence.

Planning Process in the Integration and Development Hubs: Project Groups

- **Project Groups**: These projects represent the **networks** that meet the needs of the flows created by the **physically added logistics chains** (logistics families).
- Identifying the Project Group and its anchor projects – indeed a suitable exercise to understand the **dynamics of the networks**– is not the same as knowing what is taking place at the **node** level, even though **some key nodes** may have been identified.
- The relevant information for the **user,** regarding **costs and value adding**, is what takes place at **the node rather than at the network level.**

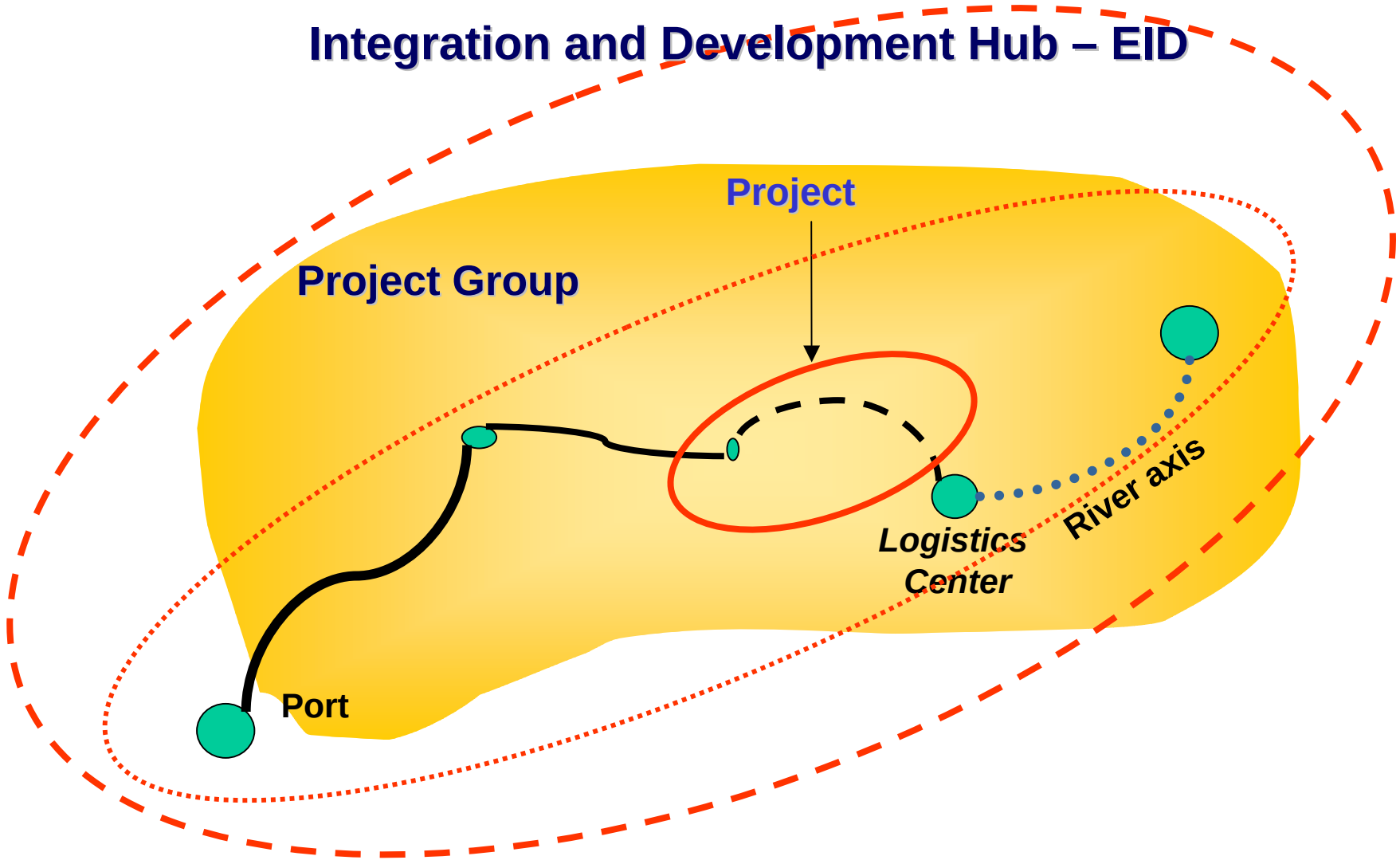
Planning Process in the Integration and Development Hubs

The future contribution of Project Groups to regional integration is based on several **assumptions:**

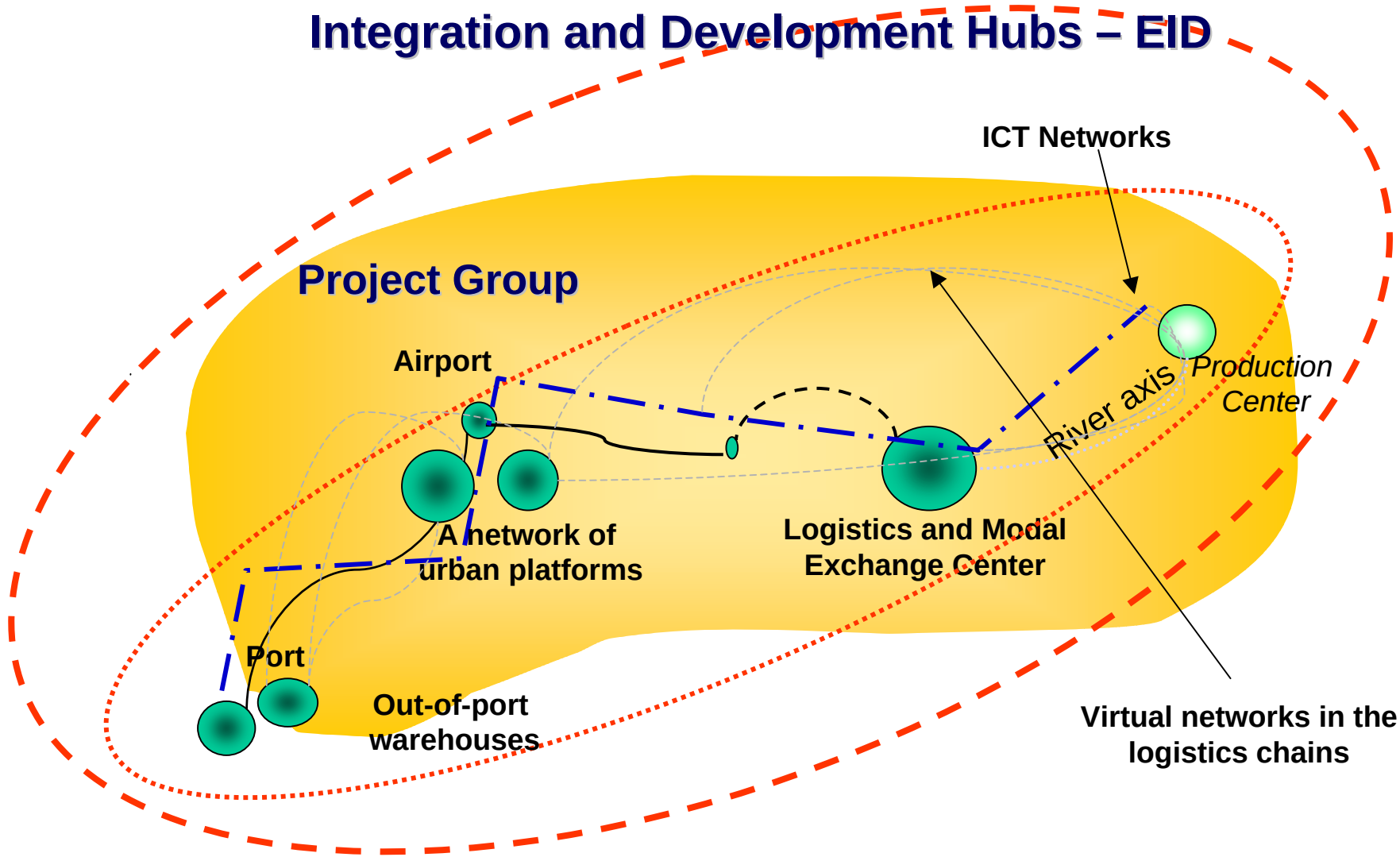
- **Assumption 1: The projects within the Project Group** are executed **at the pace** of users' requirements.
- **Assumption 2:** Transportation-related PSIs having an impact on the the Project Group **are harmonized**. Once executed, projects will satisfy users' needs.
- **Assumption 3: Nodes identified in Project Groups are relevant to the production sectors** located in the area of influence.
- **Assumption 4:** Implementing IIRSA's projects within the Project Group creates the necessary **incentives** for the **private sector to spontaneously provide value-added transportation and logistics services**, thus enhancing functional operation in the Project Group's area of influence.

Methodological Approach in the EID:

Networks as the main focus of the analysis



Approach to Logistics Corridors:
The Importance of Nodes



Approach to the Transportation-Related Sectoral Integration Processes (PSI)

- **PSI**: High impact on a Project Group's functionality
  - 4 sectoral processes regarding transportation: air, sea, multimodal and border passes.
  - ICT process: essential to ensure the operation of logistics chains in corridors.
- From the **users' perspective**, the critical issues to be solved by PSI concern the following:
  - Create the conditions to start providing specialized services in nodes.
  - Implement mechanisms to reduce logistics costs and improve the quality of service supply: information, variety of services.
  - Reduce and simplify international trade procedures, including specialized security standards.

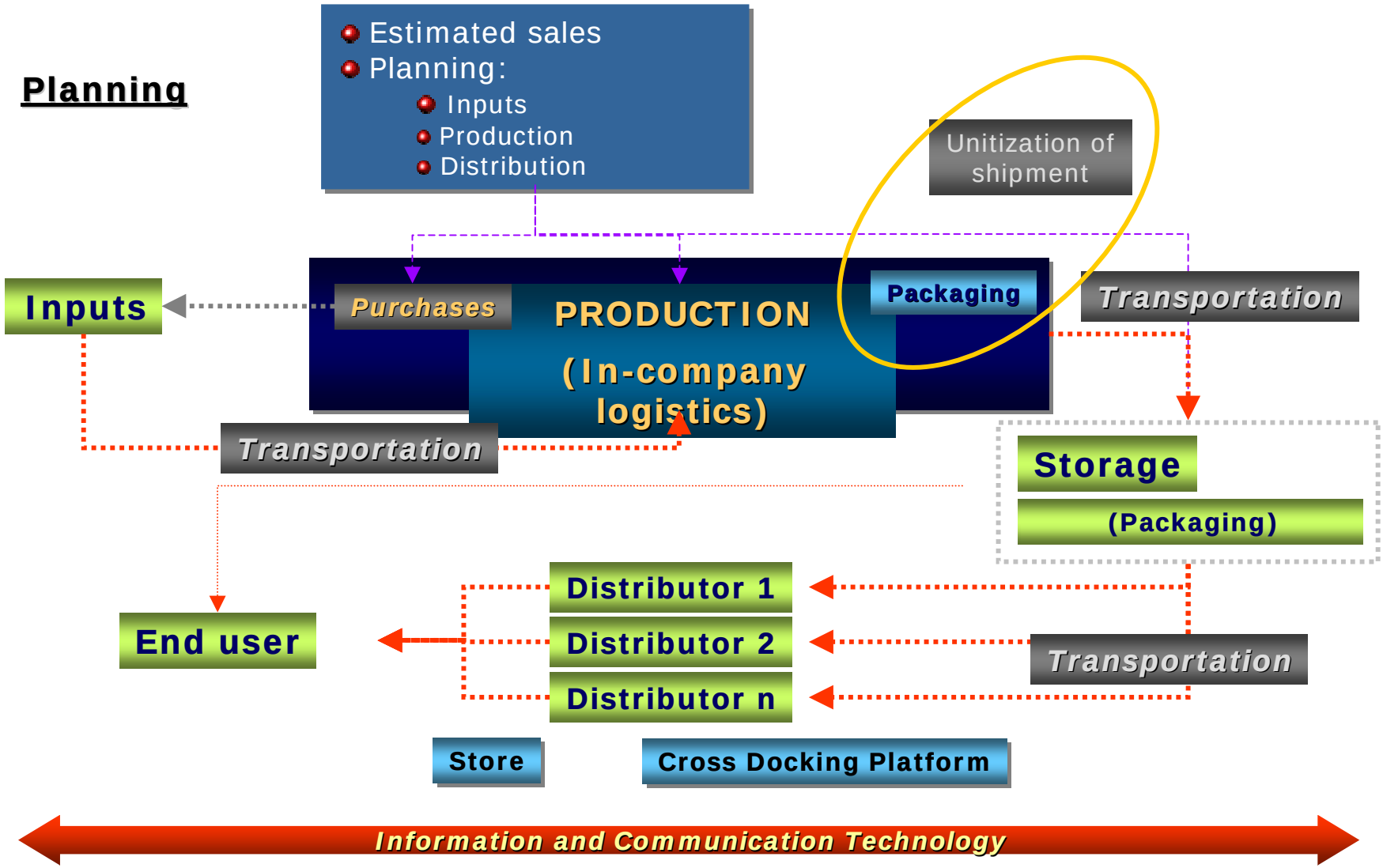
Transportation-Related Sectoral Integration Processes (cont.)

- Progress made in Sectoral Integration Processes
  - Border passes: involving complex though clear tasks.
  - Air, sea and multimodal transportation: definitions regarding their scope are not yet clear.
  - ICT: Interrupted. It is assumed that its responsibility lies exclusively with the private sector. It is not yet clear whether it is on the public agenda.

Logistics - Concept

It is a comprehensive process seeking to **anticipate clients' needs** by strategically adopting and managing the necessary resources to ensure that **goods, information and services** reach the end user in a **complete and timely manner and at a fair cost.**

Logistics – Its Processes

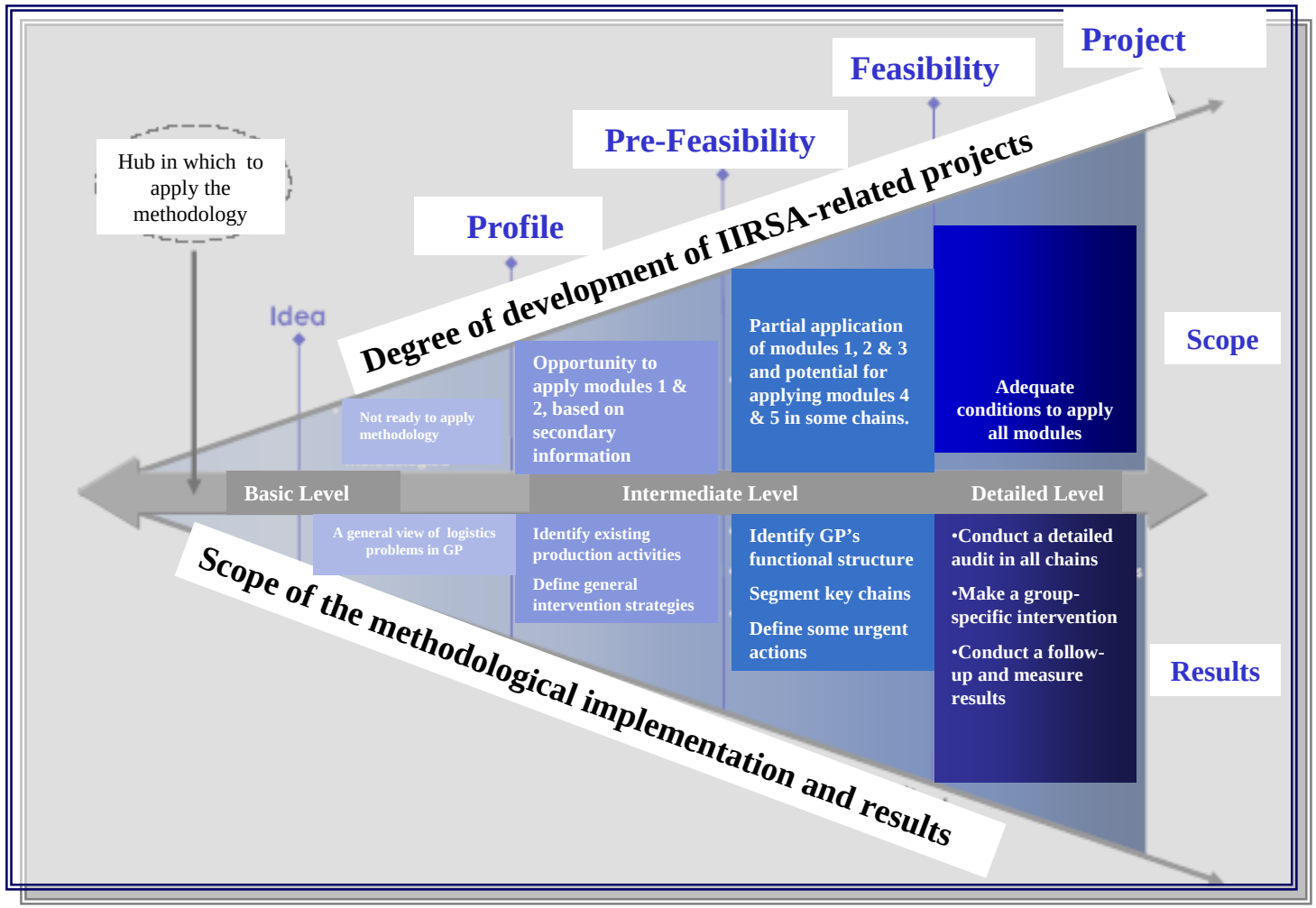


Logistics Chains - Assumptions

- A **methodology rather than a method** has been developed. In this regard, it is the user who defines its depth.
- The methodology has been developed by IIRSA, but it **can be applied to the analysis of any transportation corridor**.
- It is applicable to the **analysis of macro networks** and not to the micro logistics related to the requirements of a particular industry or economic agent.
- How deep the methodology is to be applied will vary according to the **degree of development of the projects** associated with the Project Group and should be **consistent with the lifecycle** of the projects within the group (idea, profile, pre-feasibility, feasibility, design, investment, operation).

Logistics Chains

Relation Between Lifecycle and Methodology



Logistics Chains – Objectives and Steps

Objectives

Identify **opportunities for the diversification and specialization** of logistics services that should promote **efficiency and/or value adding** in the target segments identified; in addition, define **adequate incentives** to be created by public and/or private sectors for such service provision.

Steps

- Identify relevant **production sectors**
- Detect **logistics chains**
- Form **logistics families (segmentation)**
- Identify **the structure of chains**
- **Audit or evaluate** logistics families
- Propose **public, private or mixed policies**

Logistics Chains – Steps

Module 1

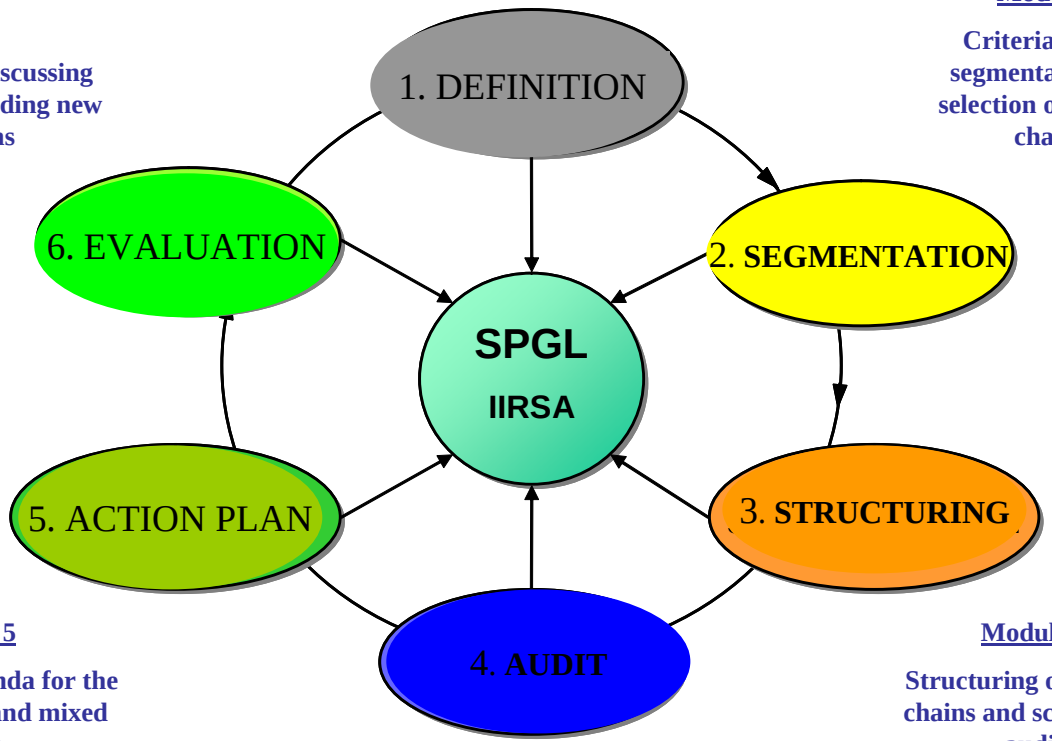
Logistics view of the project group selected by IIRSA

Module 2

Criteria for the segmentation and selection of logistics chains

Module 6

Measuring and discussing results, recommending new applications



Module 5

Defining the agenda for the public, private and mixed sectors

Module 3

Structuring of selected chains and scope of the audit

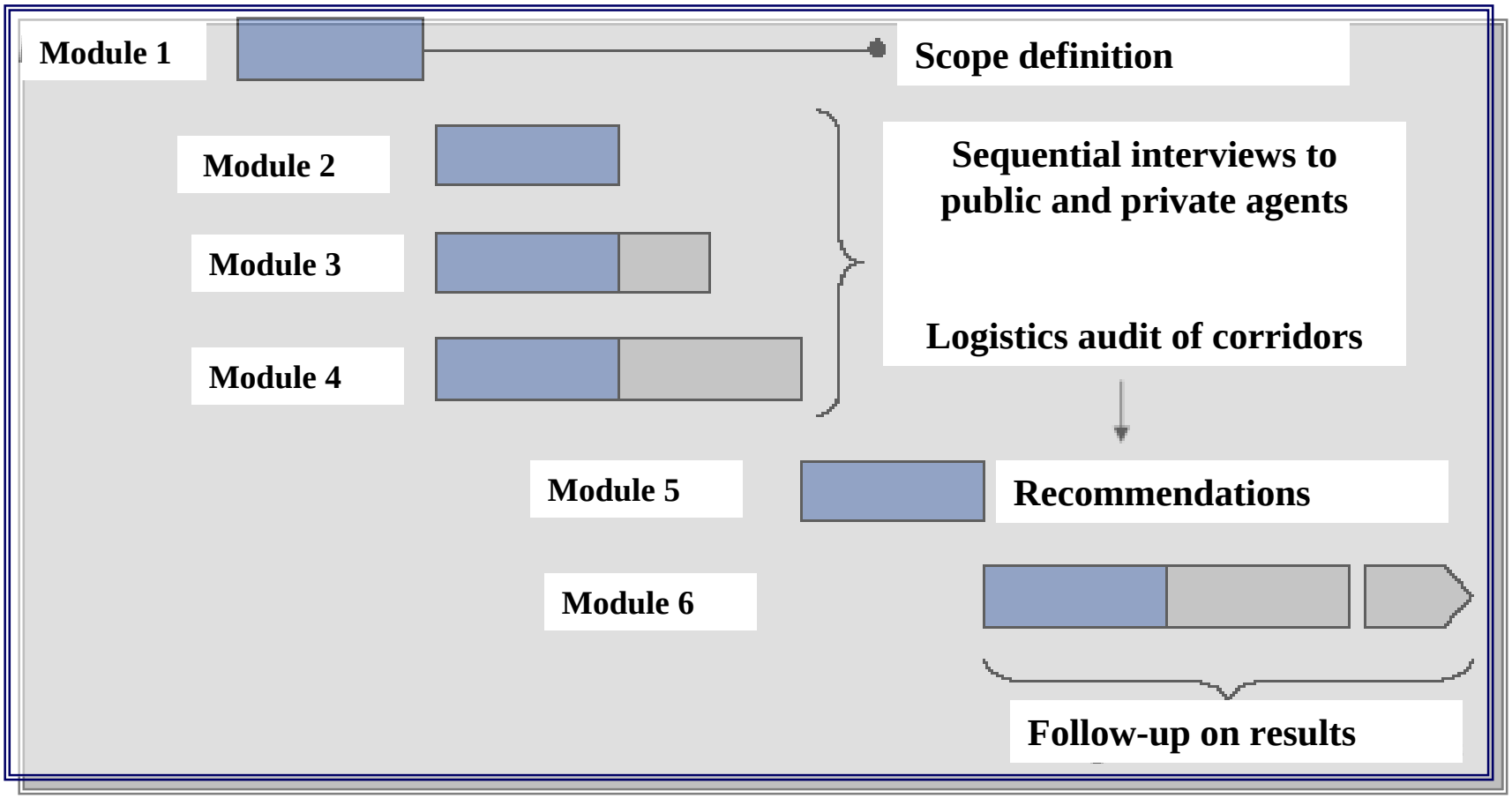
Module 4

Audits, interviews, data processing and determination of the logistics maturity degree of chains

SPLG: LOGISTICS PLANNING AND MANAGEMENT SYSTEM

Logistics Chains

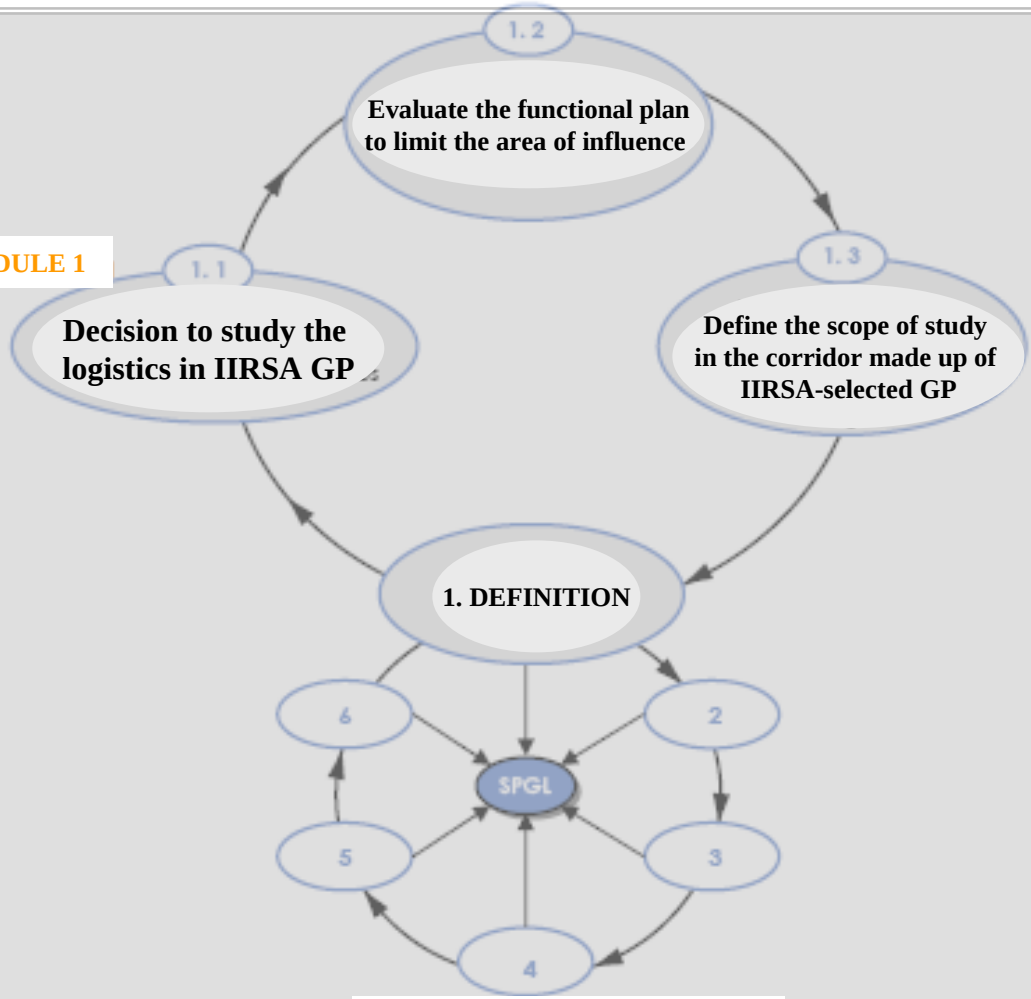
Steps and Time Sequence



Logistics Chains

Module 1: Scope Definition

CIRCUIT OF MODULE 1



METHODOLOGICAL CYCLE

Logistics Chains

Module 1: Scope Definition (cont.)

You can apply all the eligibility criteria mentioned below, though it is advisable to apply some of them:

- The presence of **first-level nodes,** such as ports, airports, cargo transshipment centers, etc.
- A **high consumption/production capacity**, with an important flow of value-added goods to support investment costs and diversified logistics operations.
- A **high potential for developing regional trade**. This does not mean, however, that project groups channeling limited flows to one or two countries are excluded.
- Real opportunities for funding or strengthening (by adding more value) concrete logistics infrastructure projects.

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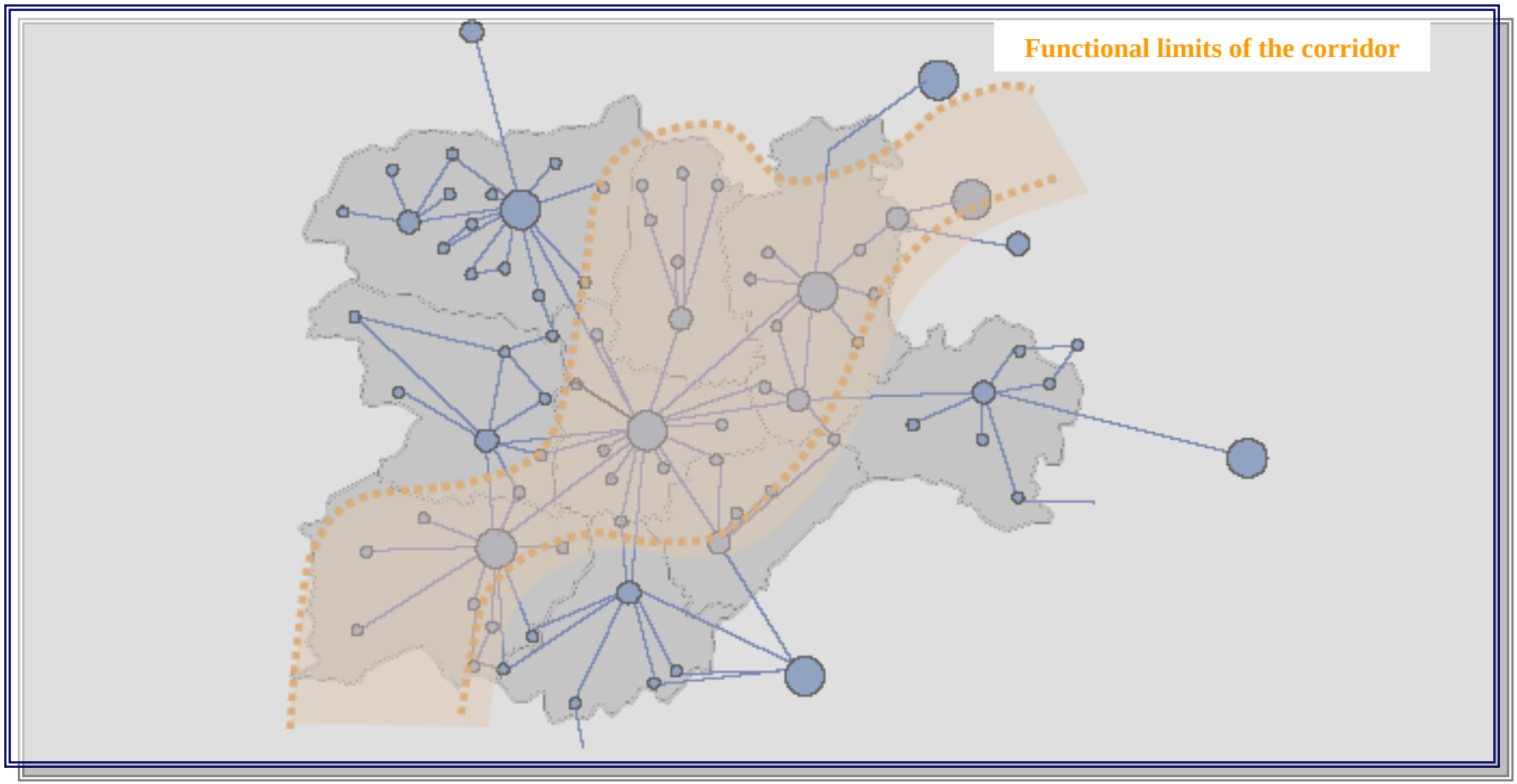
Module 1: Scope Definition (cont.)



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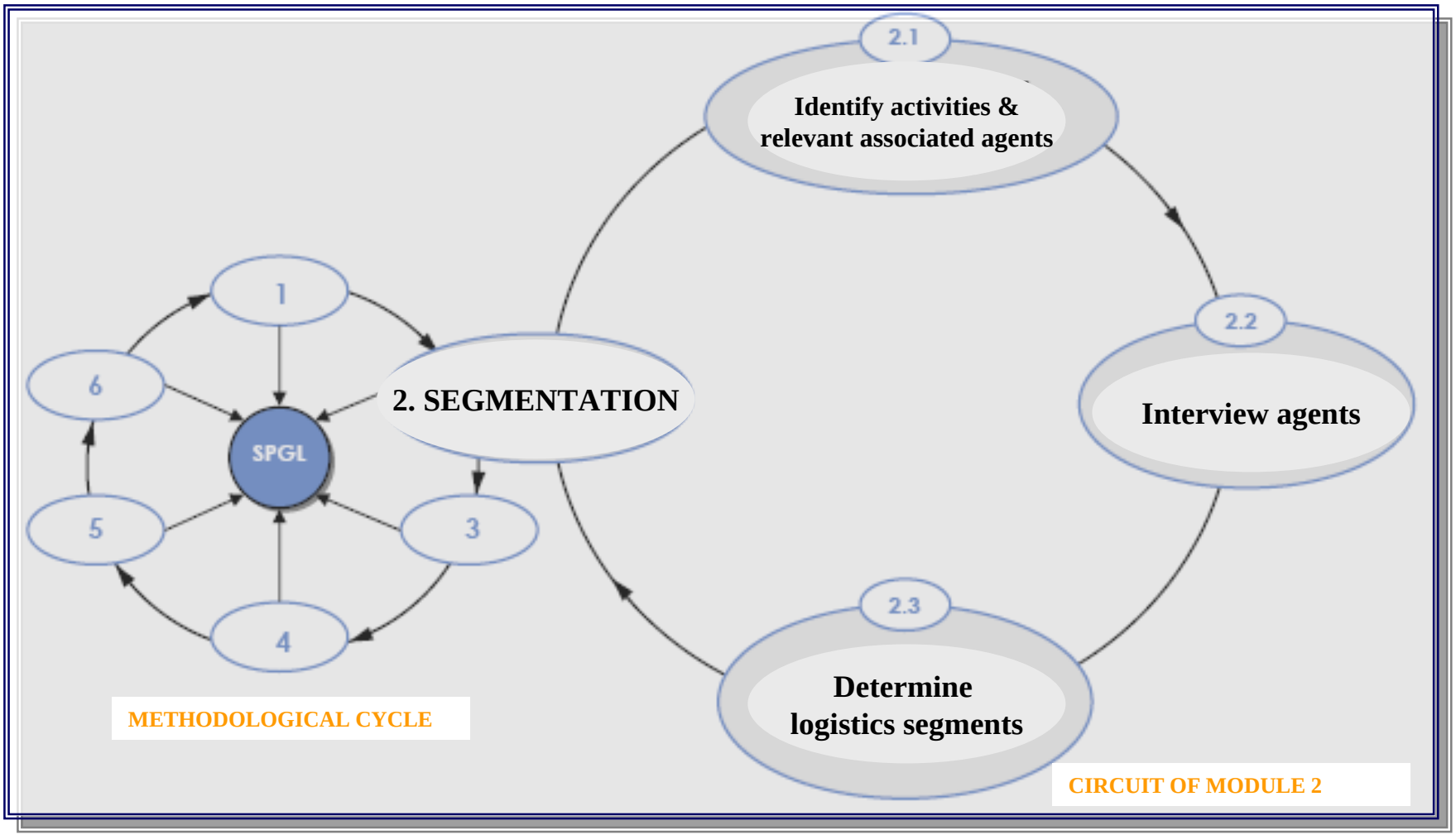
Module 2: Segmentation



Logistics Chains

Module 2: Segmentation (cont.)

Some criteria for segmenting logistics families:

- Relative weight of units and practices and type of unitization
- Value of merchandise
- Type of cargo: solid or liquid bulk, general merchandise (in container or not)
- Density of stored goods
- Actual or potential use of distribution and storage centers
- Delivery time
- Duration of the trip
- Transportation mode, type and size of vehicle used
- Location of the (national or international) target market and use of international facilities for functional reasons or to comply with foreign trade regulations

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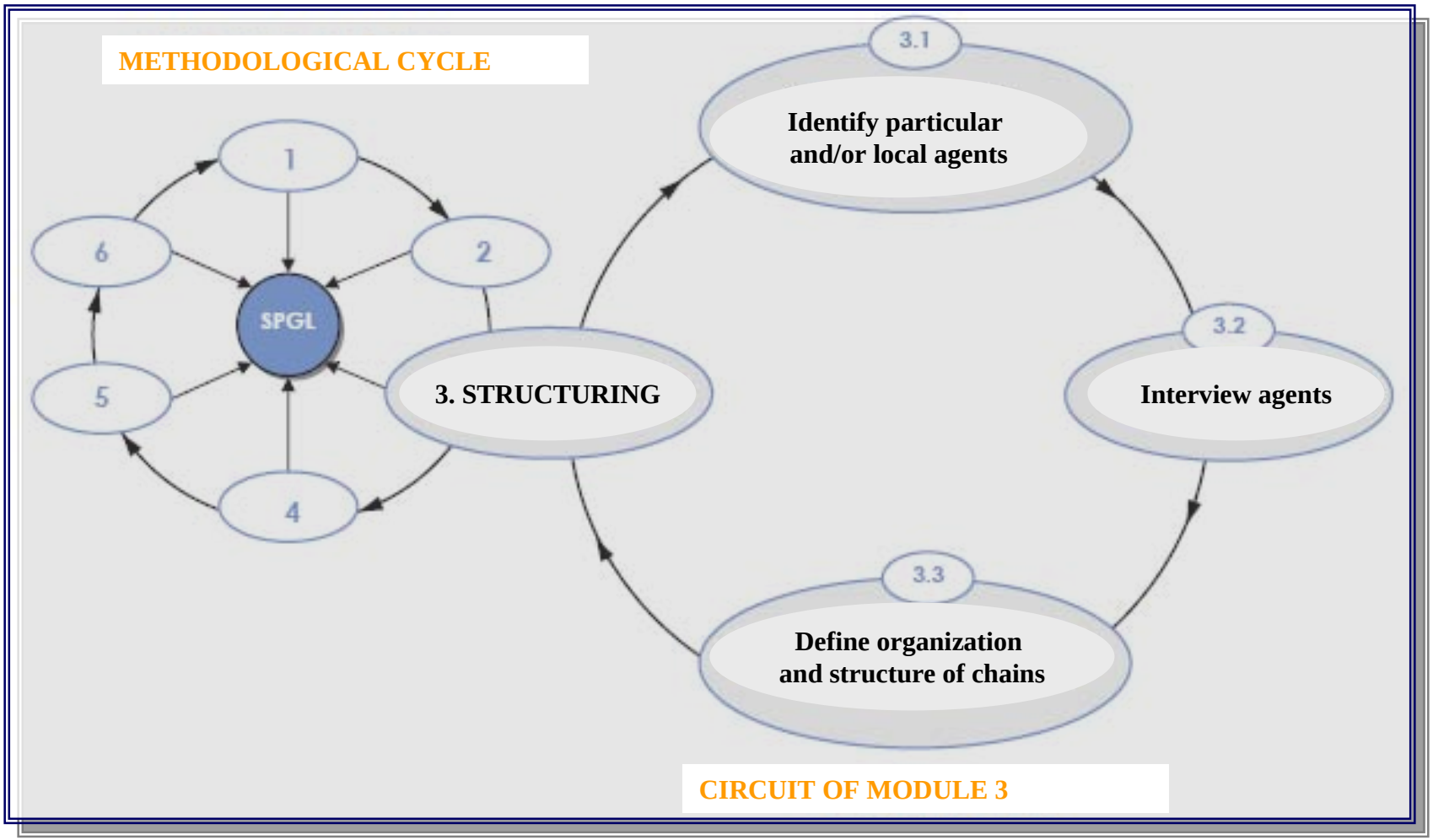
Module 3: Analysis of the Structure



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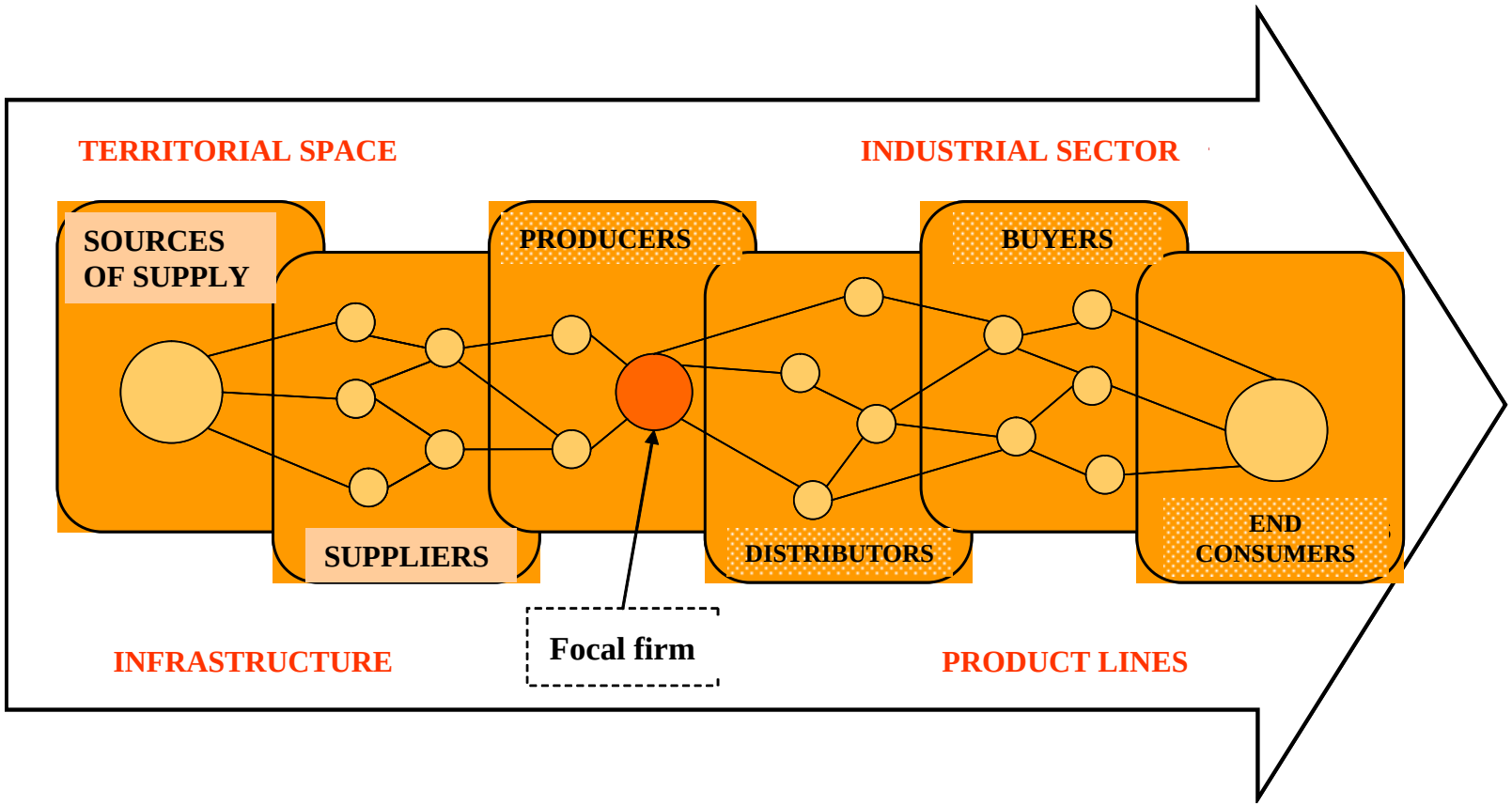
Module 3: Analysis of the Structure (cont.)



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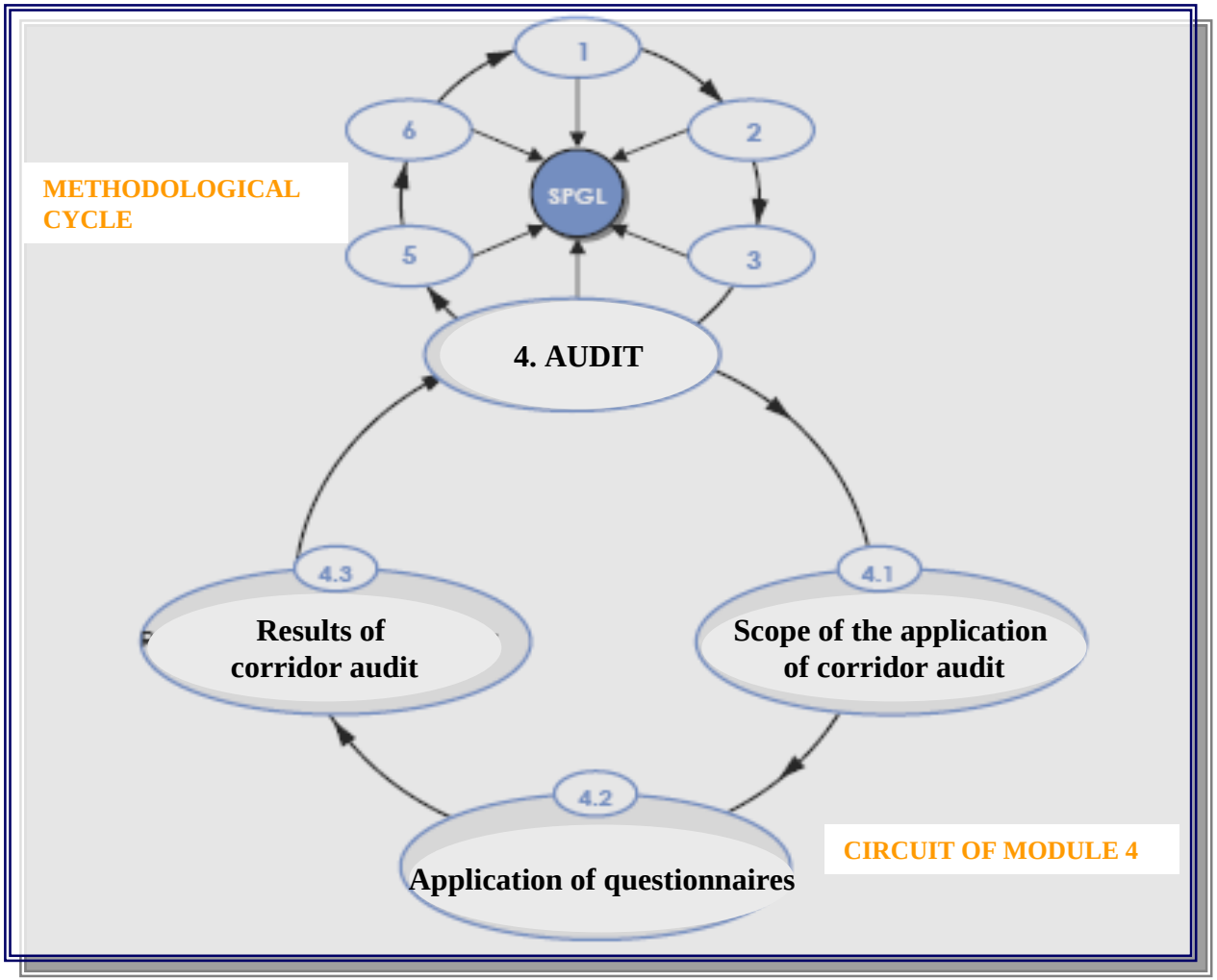
Module 4: Logistics Audit



Logistics Chains

Module 4: Logistics Audit (cont.)

Issues	Indicators
1. Situation of infrastructure and support services	1.1 Specialized logistics platforms
	1.2 SSII shared among agents
	1.3 Warehouses and storages
	1.4 Functionality of means of transportation
	1.5 Customs restrictions
2. Degree of functional integration in the chain	2.1 Strategic vision of the chain
	2.2 Operation planning
	2.3 Degree of unitization
	2.4 Degree of association along the chain
	2.5 Degree of adequate development
3. Efficiency of operations	3.1 Operable flexibility
	3.2 Practice in Inventory Management
	3.3 Return logistics
	3.4 Capacity for internationalization (FOB, CIF)
	3.5 Quality of service (response time)

Logistics Chains

Module 4: Logistics Audit (cont.)

Issues	Indicators
4. Adequacy of logistics agents	4.1 Degree of outsourcing (reliability) 4.2 Shared risks and benefits 4.3 Mid-term and long-term contracts 4.4 Specialization per segment 4.5 Specialization per service
5. Assessment of logistics costs	5.1 Margin resulting from the reduction of logistics costs 5.2 % transportation cost/total logistics cost 5.3 Penalties due to delays 5.4 Assessing logistics cost/value of product 5.5 Cost/quality ratio

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Module 4: Logistics Audit (cont.)

Issues	Indicators	Assessment	
		Situation	Importance
1. Situation of infrastructure and support services	1. 1 Specialized logistics platforms	1,2	4,8
	1. 2 SSII shared among agents	2,2	4,2
	1. 3 Warehouses and storages	3,8	3,6
	1. 4 Functionality of transportation means	3,9	3,5
	1. 5 Customs restrictions	0	0
	Subtotal	**2,22**	**3,22**
2. Degree of functional integration in the chain	2.1 Strategic vision of the chain	3,3	4,2
	2.2 Operation planning	4,1	4,5
	2.3 Degree of unitization	4,6	5
	2.4 Degree of association along the chain	1,4	3,3
	2.5 Degree of adequate development	3,3	2,3
	Subtotal	**3,34**	**3,86**

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Module 4: Logistics Audit (cont.)

Issues	Indicators	Assessment	
		Situation	Importance
3. Efficiency of operations	3. 1 Operable flexibility	4,5	4,4
	3. 2 Practice in Inventory Management	4,3	1,2
	3. 3 Return logistics	2,3	2,5
	3. 4 Capacity for internationalization (FOB, CIF)	0	0
	3. 5 Quality of service (response time)	3,5	4,6
	Subtotal	2,92	2,54
4. Adequacy of logistics costs	4.1 Degree of outsourcing (reliability)	2,5	4,1
	4.2 Shared risks and benefits	2,6	4,9
	4.3 Mid-term and long-term contracts	1,2	3,8
	4.4 Specialization per segment	3,5	3,5
	4.5 Specialization per service	4,6	4,4
	Subtotal	2,88	4,14
5. Assessment of logistics costs	5.1 Margin due to reduction of logistics costs	4,2	3,5
	5.2 % transportation cost/total logistics cost	2,2	4,9
	5.3 Penalties due to delays	2,1	2,5
	5.4 Assessing logistics cost/value of product	3,2	4,8
	5.5 Cost/quality ratio	1,6	4,2
	Subtotal	2,66	3,98

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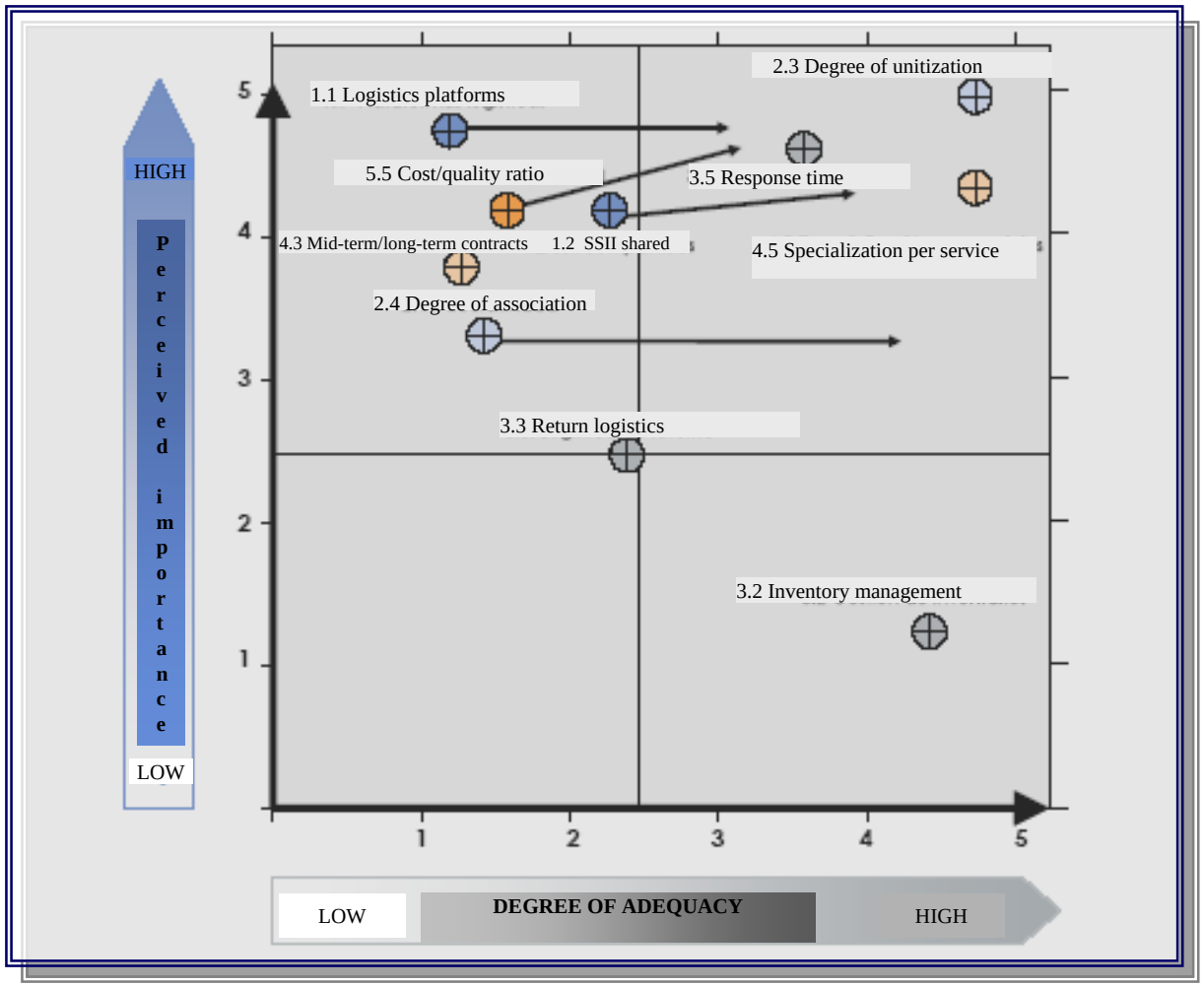
Module 4: Logistics Audit (cont.)



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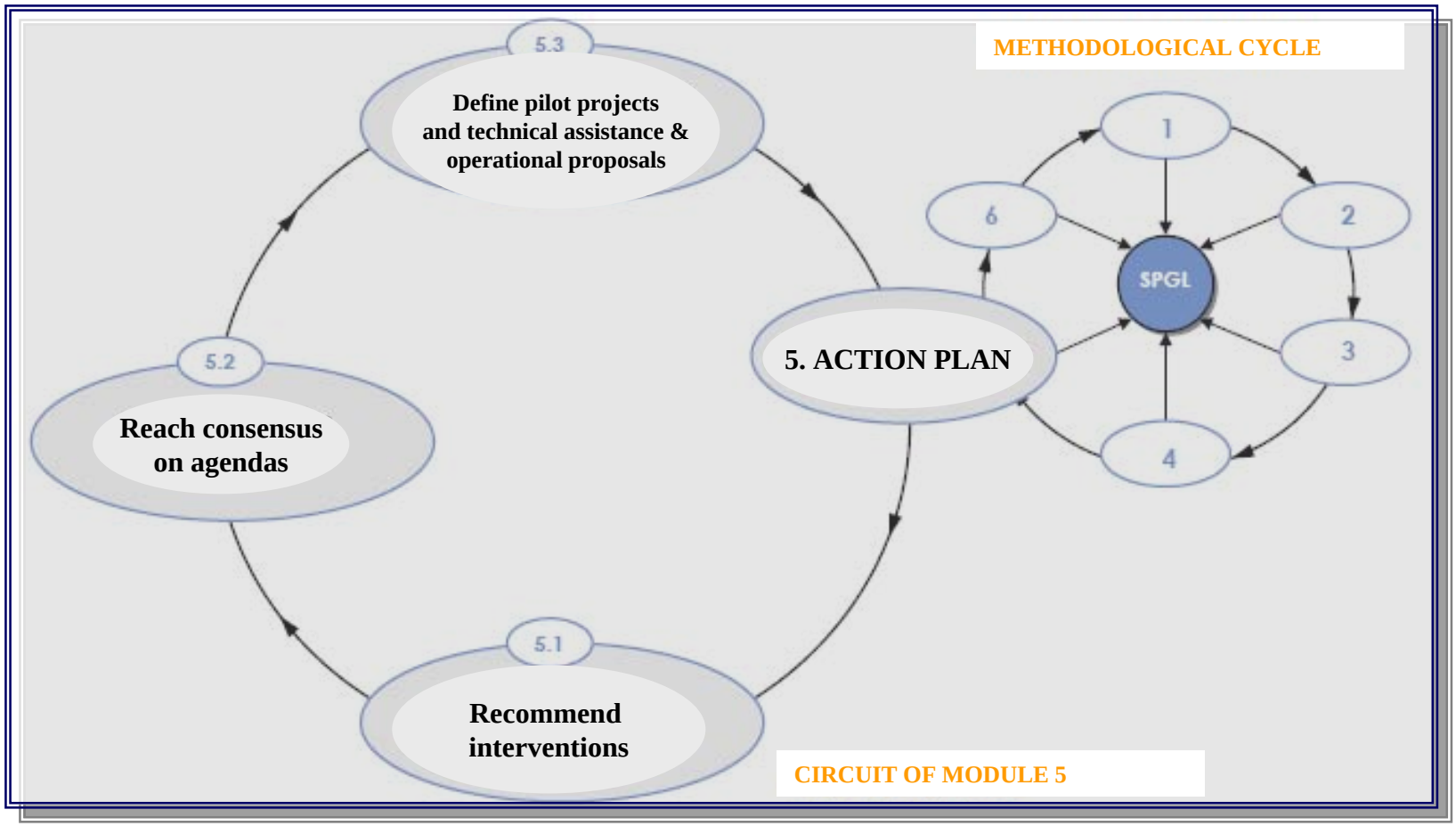
Module 5: Action Plan



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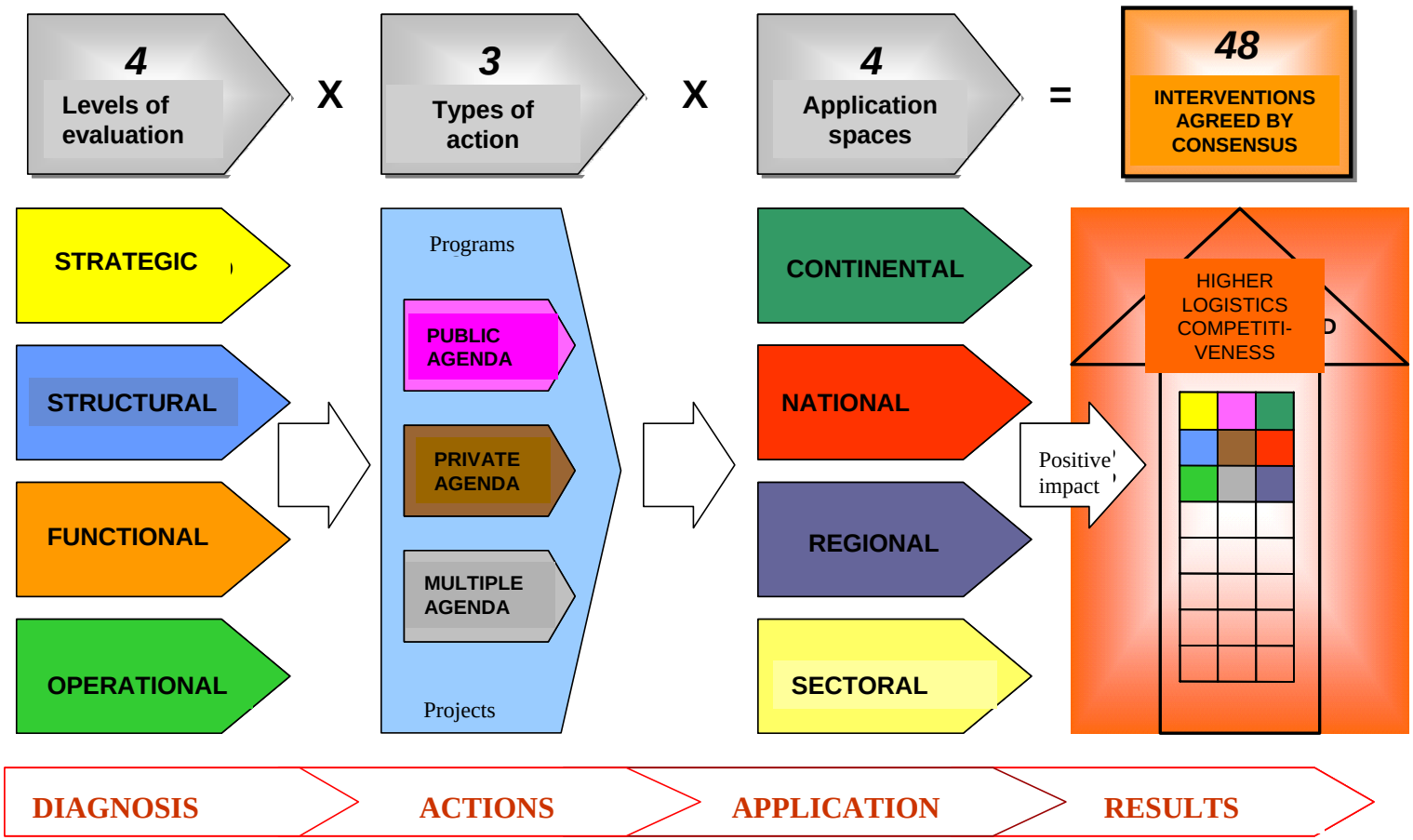
Module 5: Action Plan (cont.)



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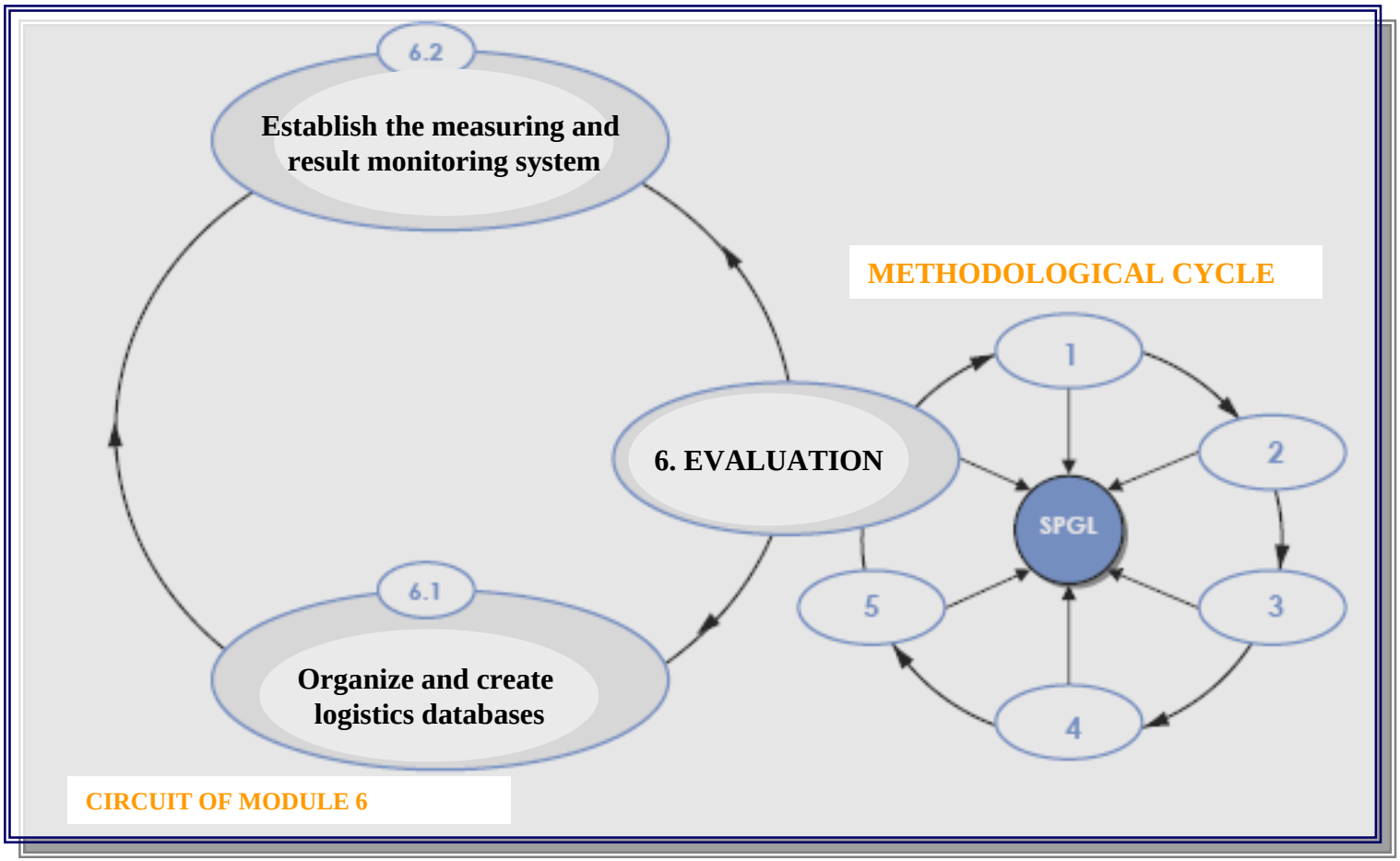
Module 6: Evaluation



Logistics Chains

Implementation – Progress made

- **2 pilot cases or Project Groups have been identified**
  - Group 2 Mercosur-Chile Hub: Porto Alegre –Colonia –Buenos Aires
  - Group 9 Andean Hub: Lima –Arequipa –Tacna –La Paz
- Their production sectors have already been identified.
- A specific logistics chain is currently under analysis: the automobile sector in Group 2 (Porto Alegre-Colonia-Buenos Aires) of the Mercosur-Chile Hub.

Logistics Chains

A Summary of the Most Relevant Issues for IIRSA

- The analysis is made on the **Project Group.**
- The **user's** perspective is taken into account: **nodes are assigned more relative importance** than networks, and this involves a radical change from the traditional approach to EIDs.
- The **nature of the Business Vision analysis** is recovered.
- **Public or public/private actions** proposed (Step 5 in the Methodology) are largely **associated with the transportation and ICT Sectoral Integration Processes**:
  - Actions related to relevant nodal infrastructure: ports, border passes, airports.
  - Simplified procedures and inter-institutional and bilateral harmonization.
  - Promotion of ICTs that facilitate diversification, coordination and specialization of value-added logistics services.

Expected Results

- Develop a methodology
- Draft an Implementation Guide – practical guidelines to apply the methodology
- Applying the methodology must ensure establishing a **functional link between IIRSA's projects** and their respective **Project Group**
- The establishment of this link can be ensured in **two ways**:
  - Defining the adequate **temporal linkage among some projects** of the Project Group
  - Identifying the **relevant PSIs and the nature of the actions proposed for critical nodes and ICT networks** in the whole functional set of the **Project Group**

- Enhance the quality of IIRSA's economic and territorial planning process