STS Approaches – Lowlands and North American - in the 21st Century"

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Global Network for SMART Organization Design

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Lowlands STS theory & link to systems theory

- ▶ A predictive theory

- ▶ About systems of division of labour,

- ▶ And thus (also) applicable on (networks of) organisations,

- ▶ Developed by de Sitter and colleagues (some are here)

- ▶ Originated from the Tavistock-tradition,

- ▶ Rooted in the social systems theory of Niklas Luhmann,

  - ▶ Elaborating on the relationship between the environment of the system (not-VUCA versus VUCA)

  - ▶ The configuration of the system (functional versus order-based)

  - ▶ The performance of the systems

  - ▶ And the quality of working life

PART ONE

- ❖ **Introductions**
- ❖ **Agenda Overview**

AGENDA

	STS APPROACHES – Lowlands and North American – in the 21st Century .5 Day Workshop
15 minutes	**PART ONE:** **INTRODUCTION – Design of Workshop & Link to Global STSD Network Session**
45 minutes	**PART TWO:** **COMMON PRINCIPLES AND OUTCOMES** • Presentation – common principles and outcomes • Small group work – Clarification of design principles • Plenary Debrief – Understanding how design princples achieve outcomes
10 minutes	**BREAK**
50 minutes	**PART THREE:** **STS METHODOLOGY COMMON GROUND Lowlands & NA** • Presentation – STS Change & Design Approach • Plenary
10 minutes	**BREAK**

75 minutes	**PART FOUR: ORGANIZATIONAL ANALYSIS AND DESIGN – Uniqueness of each approach**
	• **Presentation**
	   o NA
	   o Lowlands
	• **Small Group Work**
	   Which STS practices help us to design?
	• **Plenary Debrief -** Participant Learning takeaways

5 minutes	**PART FIVE: CLOSURE**

Commonalities & Differences
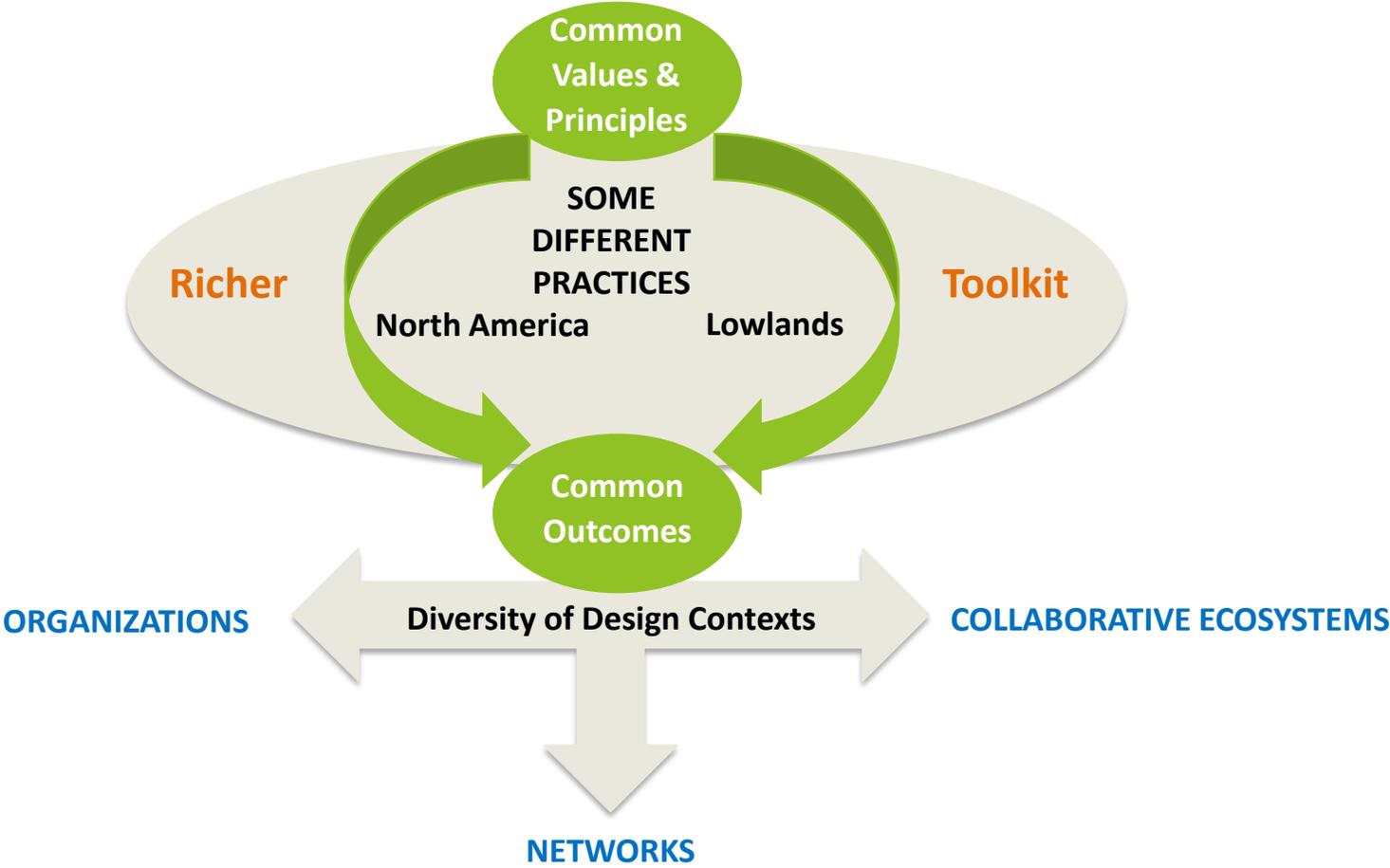
PART TWO

❖ **Presentation – Common Principles & Outcomes**

❖ **Small Group Work – Questions re Principles**

❖ **Plenary Debrief**

Common Principles & Outcomes

Shared purpose

Design first core transformation process

Integration of diversity

Self-organisation

Reduce complexity

Responsible autonomy

Learning and innovation environment

Human scale design

mutually beneficial Workplace Innovation

Wholeness
Organisation health
Healthy work
(Customer) Value creation

PEOPLE-PRODUCTIVITY-PROSPERITY-PLANET

Originators are Doug Austrom, USA; Mark Govers, The Netherlands; Carolyn Ordowich, USA; Bert Painter, Canada; Christiane Sels, Belgium, Pierre van Amelsvoort, The Netherlands, Geert van Hootegem, Belgium.
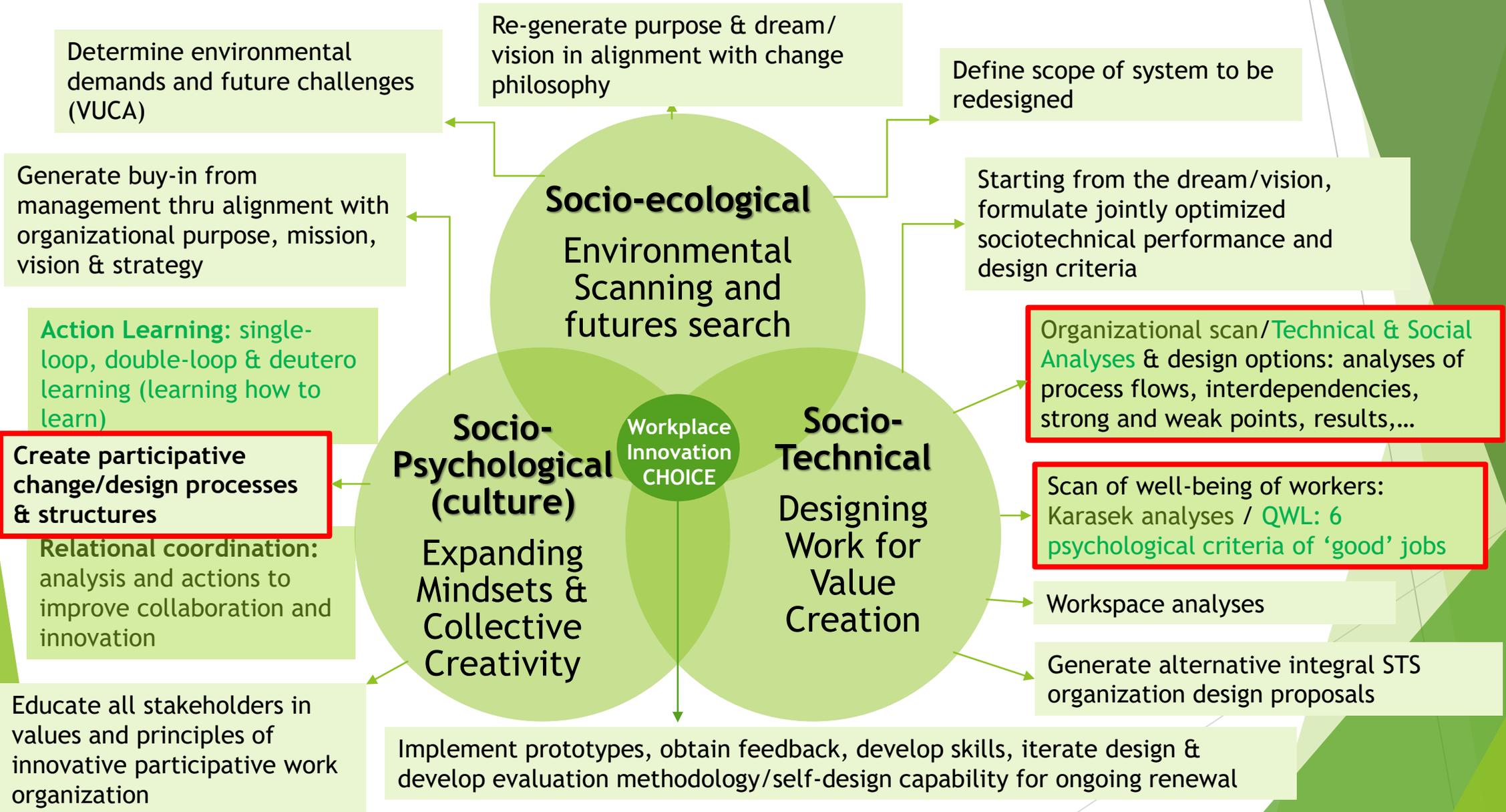Detailed definitional work by Carolyn Ordowich and Christiane Sels, 2018.

PART TWO – Small Group work

▶ You have been assigned to max-mix groups with at least one NA and one Lowlands practitioner in each group. We have also tried to mix new and long term members of the GLOBAL NETWORK as well as gender and age.

▶ Learn who is in your team and with what STS knowledge before you begin.

▶ Your task is to discuss in your group what you have learned about STS principles from our handouts and to prepare clarifying questions or amendments to the principles in the plenary.

▶ You have 20 minutes for this task.

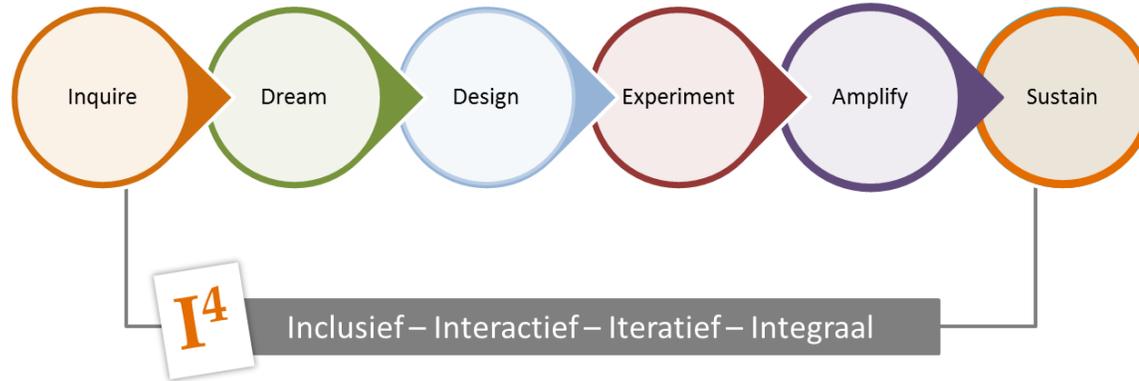▶ Please present your questions or amendments on flipcharts.

PART THREE

- ❖ **Presentation – STS Model & Approach**

- ❖ **Highlights of Lowlands & NA Similarities & Differences**

- ❖ **Plenary debrief**
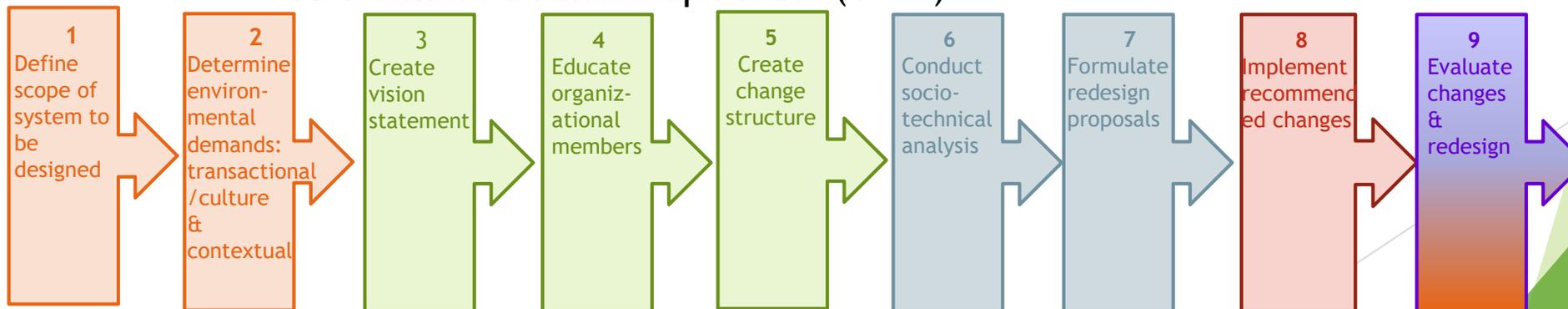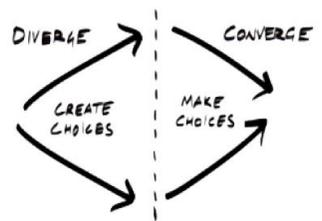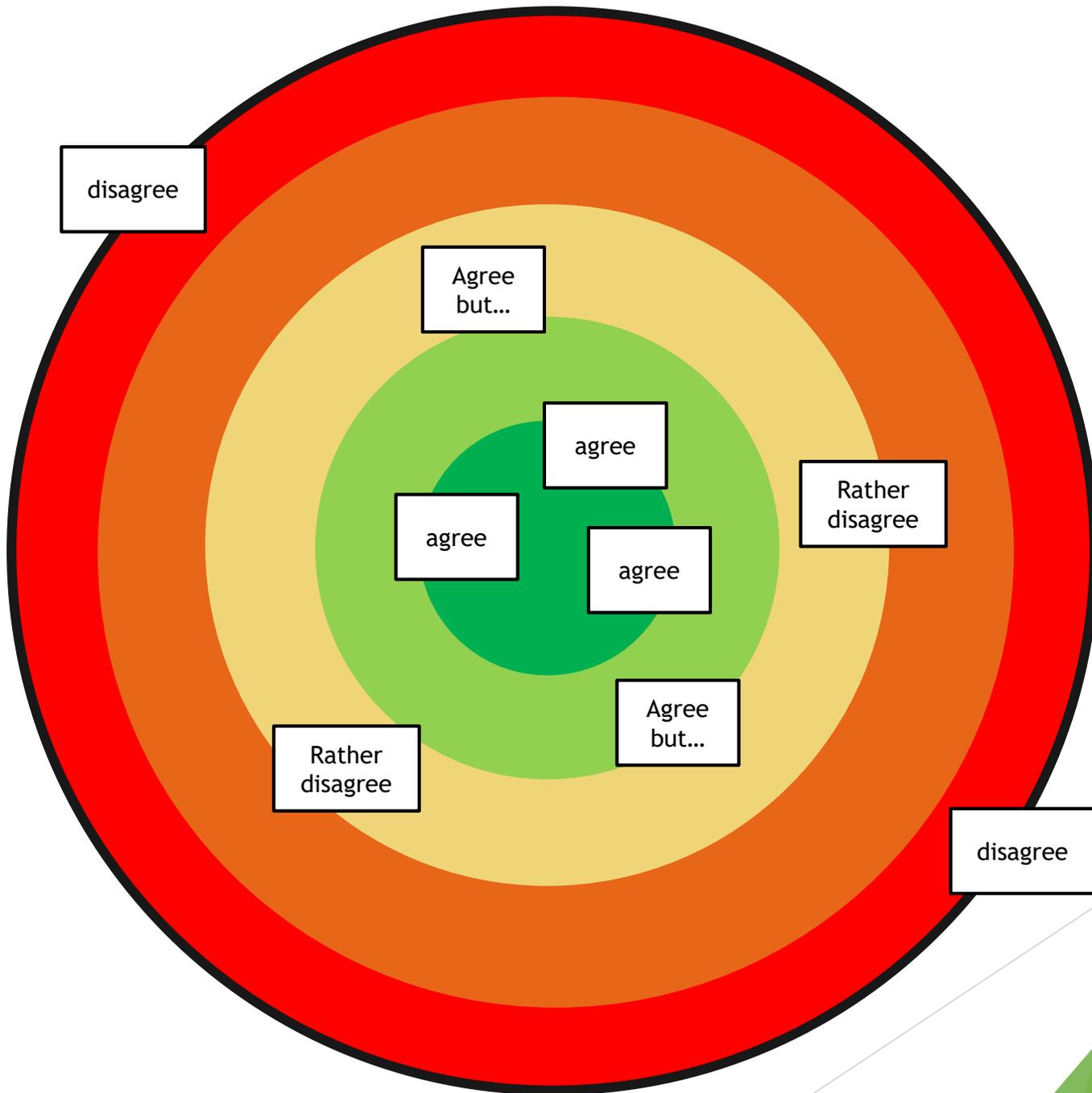
STS APPROACH in both Lowlands & NA

Determine environmental demands and future challenges (VUCA)

Re-generate purpose & dream/ vision in alignment with change philosophy

Define scope of system to be redesigned

Generate buy-in from management thru alignment with organizational purpose, mission, vision & strategy

Starting from the dream/vision, formulate jointly optimized sociotechnical performance and design criteria

Socio-ecological
Environmental Scanning and futures search

Action Learning: single-loop, double-loop & deutero learning (learning how to learn)

Create participative change/design processes & structures

Relational coordination: analysis and actions to improve collaboration and innovation

Socio-Psychological (culture)
Expanding Mindsets & Collective Creativity

Workplace Innovation CHOICE

Socio-Technical
Designing Work for Value Creation

Organizational scan/Technical & Social Analyses & design options: analyses of process flows, interdependencies, strong and weak points, results,…

Scan of well-being of workers: Karasek analyses / QWL: 6 psychological criteria of 'good' jobs

Workspace analyses

Generate alternative integral STS organization design proposals

Educate all stakeholders in values and principles of innovative participative work organization

Implement prototypes, obtain feedback, develop skills, iterate design & develop evaluation methodology/self-design capability for ongoing renewal

Contrast of Lowlands & NA STS Change Model

| Inquire | Dream | Design | Experiment | Amplify | Sustain |

I⁴ Inclusief – Interactief – Iteratief – Integraal

▶ Organizational change impacts the whole system in the organization. **An integral (Lowlands) or whole systems (NA) approach** takes into account the different aspects of that system: structure, people, culture and systems.

▶ **Inclusive and interactive**: we strive for maximal engagement of the employees in the change process, from the very start. Management has the responsability to define the mission, vision and strategy of the organization and to design a clear set of goals and performance criteria. In NA, the strategic process itself is carried out as participatively as possible.

▶ Instead of creating a "*big bang*" change, we work along the principles of *design thinking*. The organization learns and evolves by conducting experiments and using **iterative projects**. In NA, we call this the action-learning approach.

NA: Pasmore's Nine Step Model (1988)

| 1 Define scope of system to be designed | 2 Determine environ-mental demands: transactional /culture & contextual | 3 Create vision statement | 4 Educate organiz-ational members | 5 Create change structure | 6 Conduct socio-technical analysis | 7 Formulate redesign proposals | 8 Implement recommend ed changes | 9 Evaluate changes & redesign |

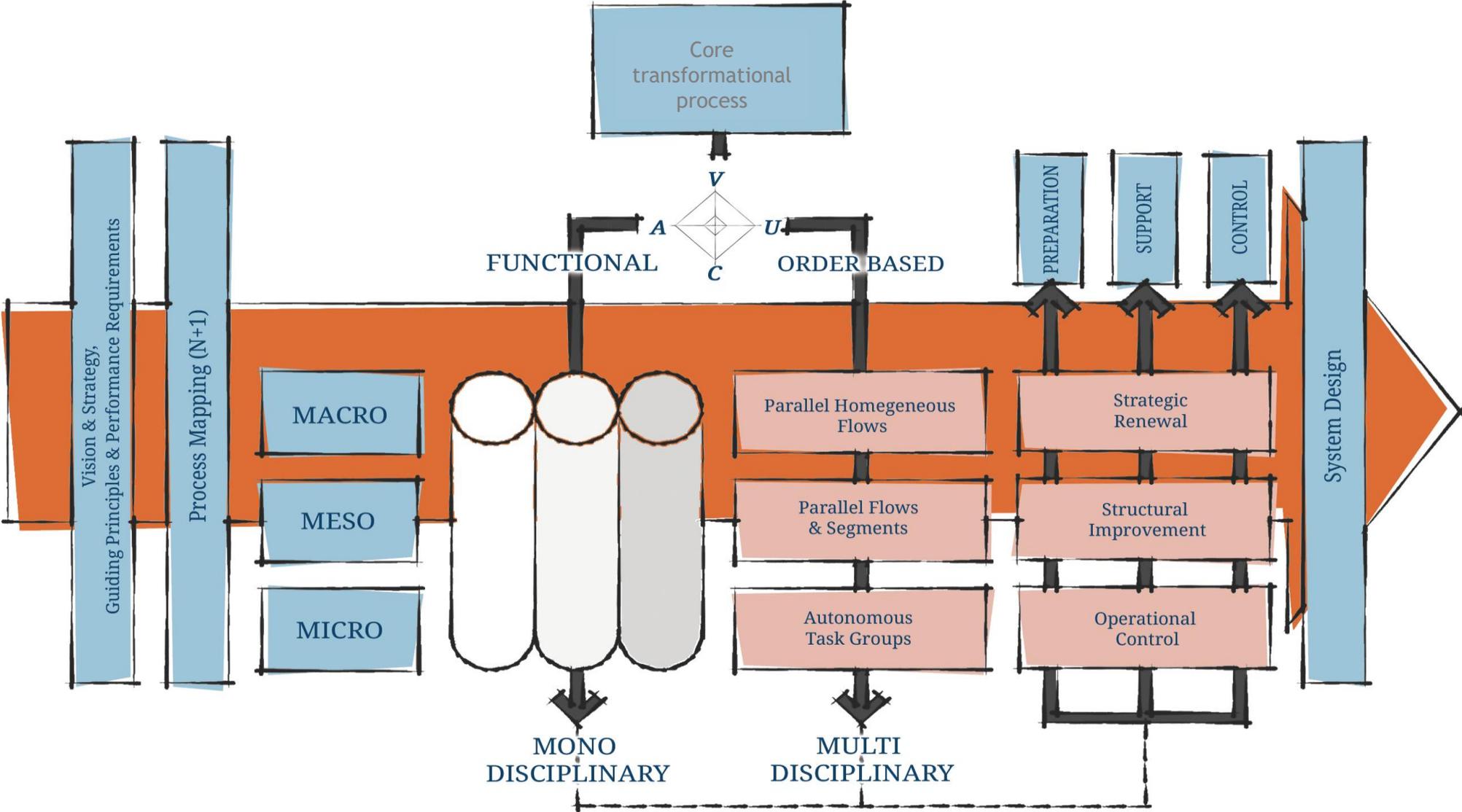# What would you like to learn more about?

- ?
- ?

PART FOUR

- ❖ **Presentation – NA Socio-Technical Analysis & Design**

- ❖ **Presentation – Lowlands Organizational Analysis & Design**

- ❖ **Small Group Work –** *Which STS practices help us to design for the new digital technologies?*
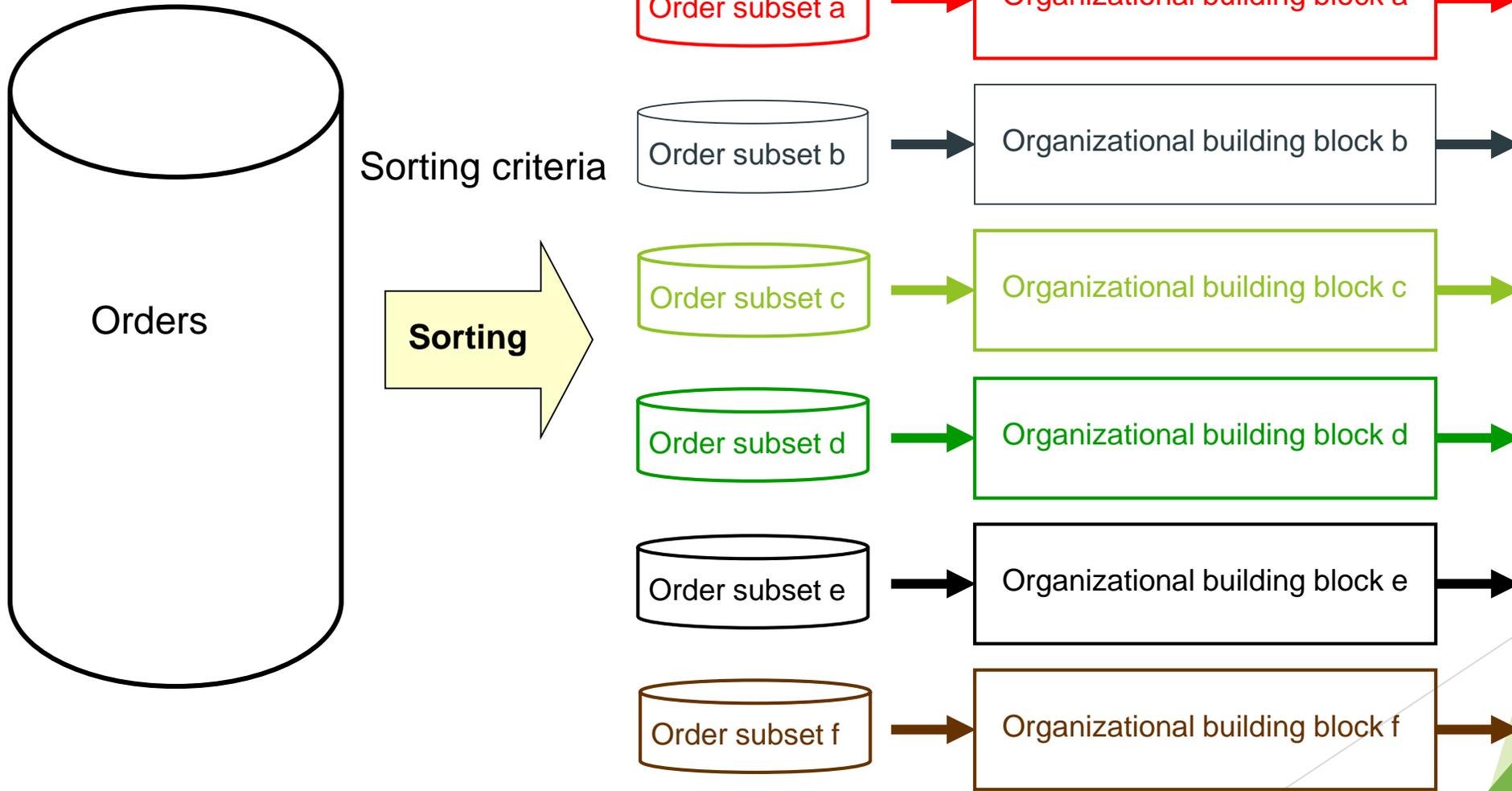
- ❖ **Plenary Debrief**

LOWLANDS PRINCIPLES FOR INNOVATIVE WORK ORGANISATION

- ▶ The transformational process = basis for organizing

- ▶ Reduction of external variety and increase of internal capacity to deal with complexity and uncertainty

- ▶ The organization structure is based on well-defined order streams or (client) groups

- ▶ From a complex organization with passive jobs to a simple, transparant organization with active jobs

- ▶ Increase local governance capacity

- ▶ Sustainable (multidipliscinary) teamwork based on a whole, complete task

- ▶ Focus on horizontal coordination mechanisms (instead of vertical)

- ▶ Result orientation

- ▶ Minimal hierarchy

- ▶ Minimal critical specifications

- ▶ Systems and infrastructure are designed to support and facilitate the core transformational process

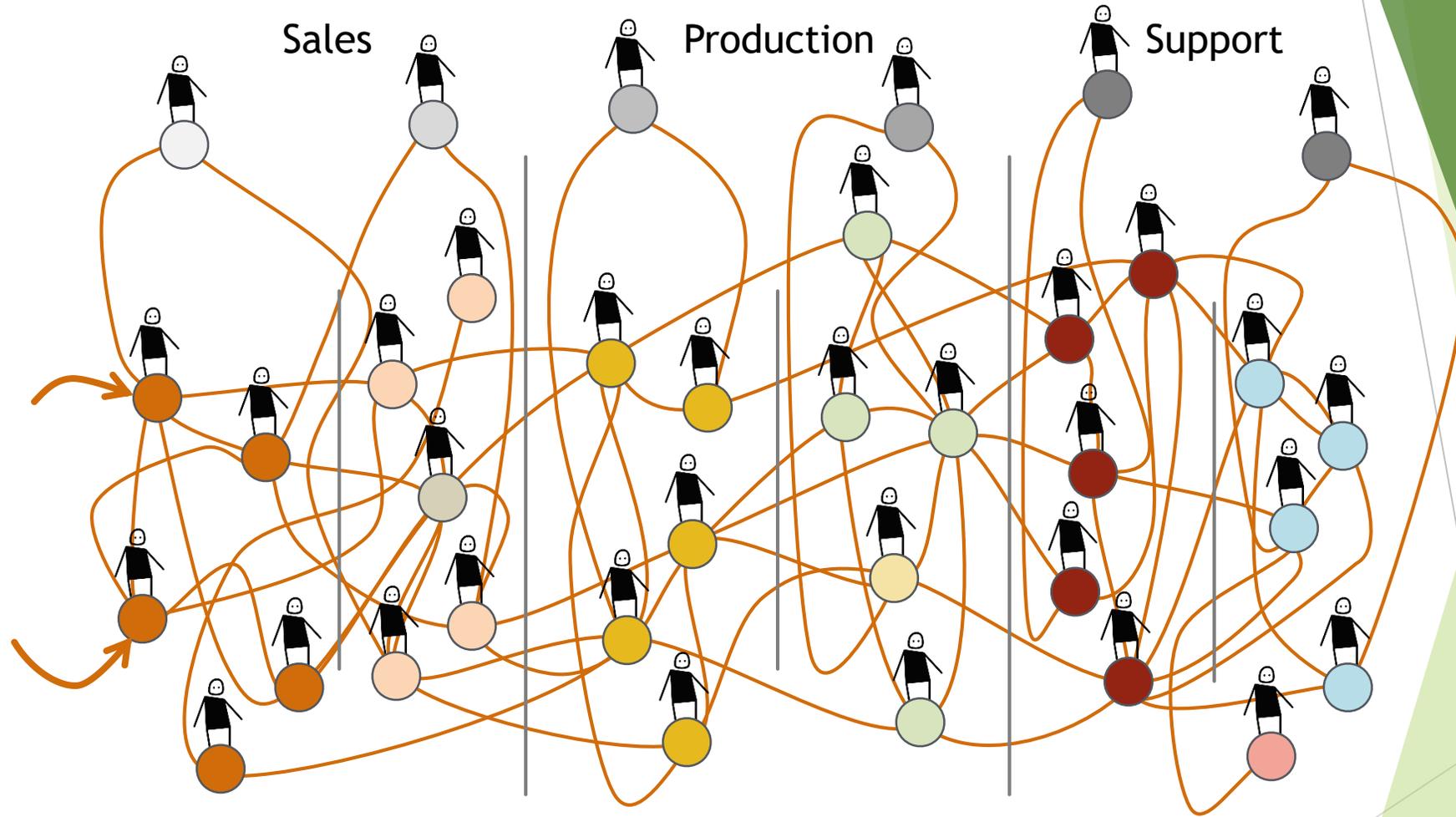- ▶ Congruent (HRM) systems allowing time & place sovereignty
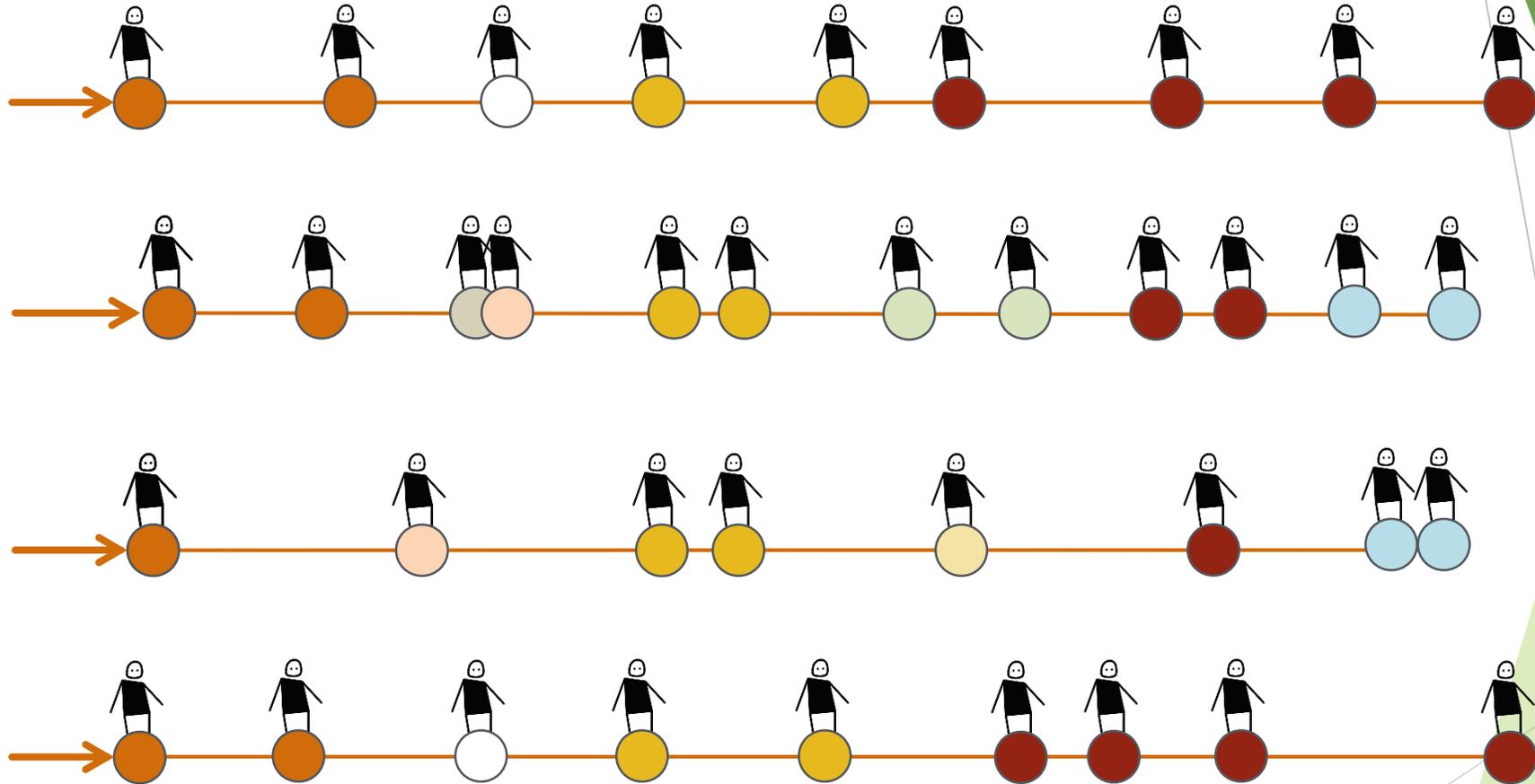
Lowlands STS Approach

Parallelization: sorting of "orders"

Orders

Sorting criteria

Sorting

Order subset a → Organizational building block a

Order subset b → Organizational building block b

Order subset c → Organizational building block c

Order subset d → Organizational building block d

Order subset e → Organizational building block e

Order subset f → Organizational building block f

NETWORK OF INTERDEPENDENCIES

Sales   Production   Support

NETWORK OF INTERDEPENDENCIES

SEGMENTATION

Relation= interdependency= Need for coordination

Reducing proces complexity and creation of complete process steps

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

↓ Keep it simple

| 1, 2, 5 | 3, 4 | 6, 7, 8, 9 |
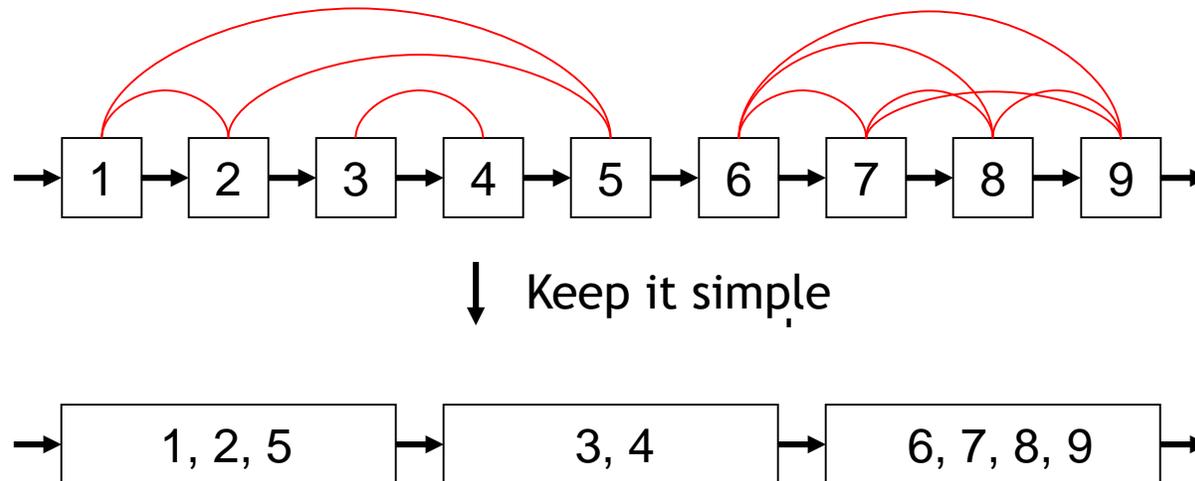
SEGMENTATION

✂ Cut up the process in as few as possible separate activity groups

✂ When possible make the cut where there is the least interdependency

✂ One can recognize interdependency by the intensity and importance of the interactions to realize the output

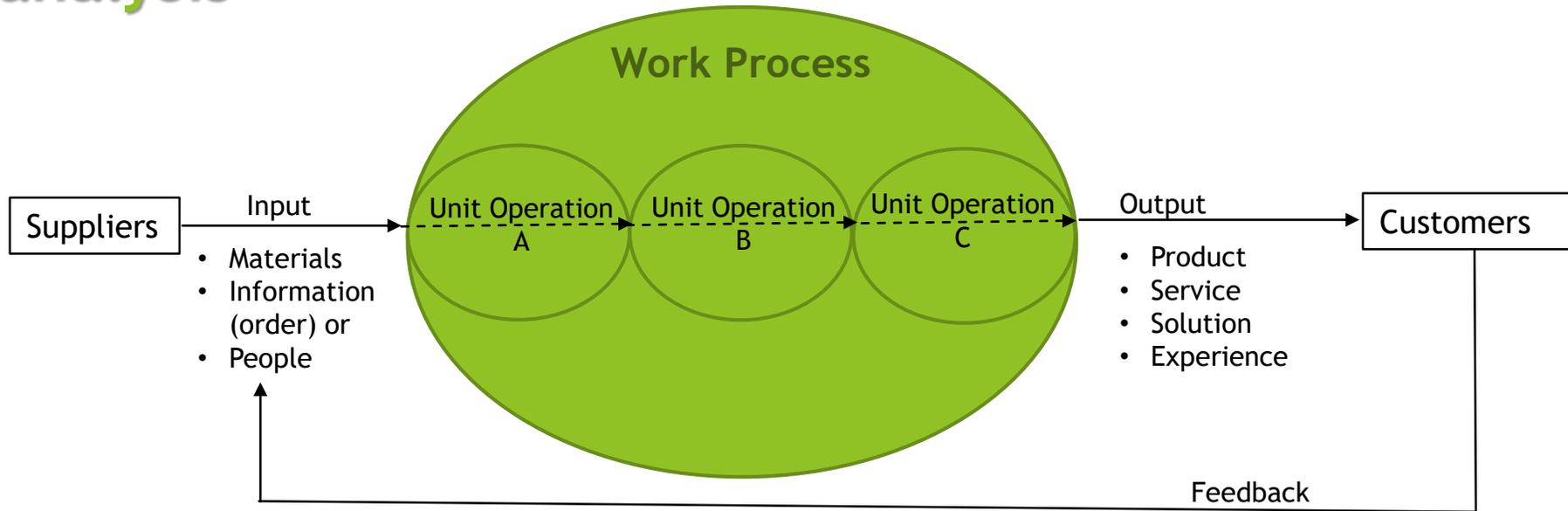Strong relationships   Weak relationships
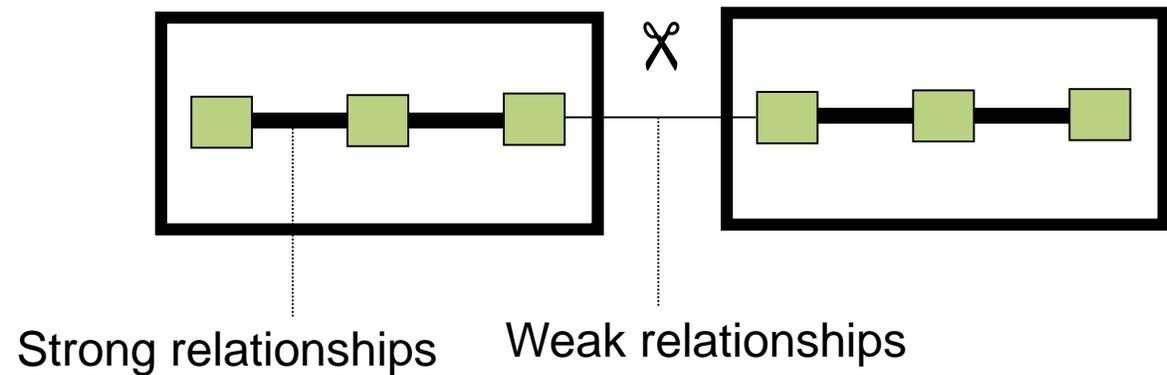
Lowlands Self-organizing teamwork

1. Complete tasks

2. Mutual interdependency

3. Multi-skilled (broad employable) team members

4. 4 to 15 team members

5. Sufficient autonomy and job resources

6. Internal and external coordination

7. Visibility

8. Minimal specifications

9. Feedback system
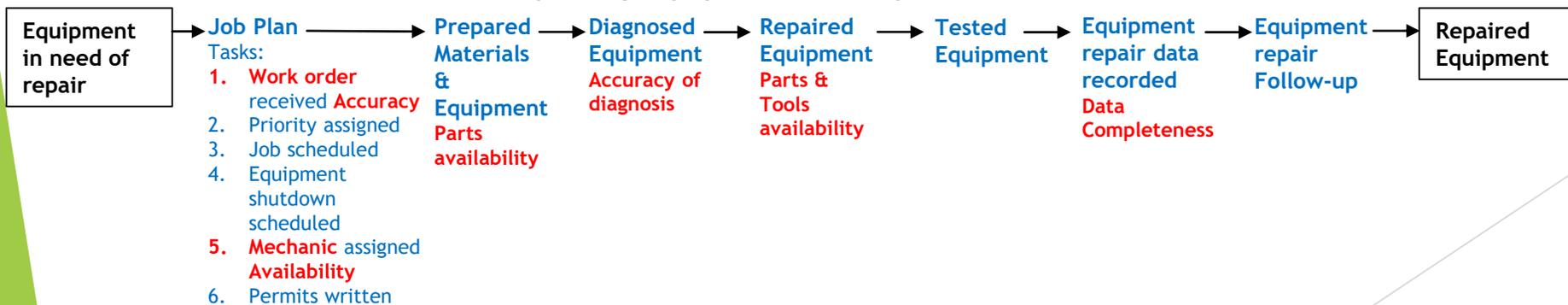
10. Always change a winning team

NA Principles of Socio-technical Design Adapted from Cherns (1976, 1987)

Categories of Principles	Principles	Meaning
DESIGN PROCESS	Compatibility	The process of design must be compatible with its participative, action learning objectives as well as with the whole systems design criteria.
	Minimal Critical Specification	Specify only what is essential and critical to organization success, which essentially means defining what and not how so as to provide a structure for democratic decisions & self-regulation.
	Incompletion	The design process is iterative and continuous. The organization is flexibly adapting to its environment, managing the transition between old and new interaction dynamics.
WHOLE SYSTEMS DESIGN CRITERIA	Design for human flourishing	Emphasis in design is placed on the *quality of working life* so as to maximize team and individual autonomy to increase commitment and humanize the workplace.
	Boundary location	Boundaries should be drawn where there is the least task interdependency so as to minimize inter-group relations; boundaries should not be drawn to inhibit the sharing or flow of information, knowledge and skills. Boundaries are political and must be skillfully managed.
	Coordination and Control	Control should be awarded to the core work team so as to make supervision minimal. This includes the authority to coordinate equipment, materials or other resources necessary to carry out the team's responsibilities; the team accepts responsibility for their prudent and economical use. Variations from what is planned or expected is controlled at point of origin. Variances should be removed or eliminated through technology, but those that are not should be controlled by the organization closest to their point of origin. Key variances should not be allowed to cross unit operations.
	Multi-functionality; multi-skilling	Individuals and groups need a range of tasks to provide satisfying jobs and for redundancy and flexibility.
	Information flow	Avoid information intermediaries – information should flow first to the person(s) performing the task. Effective information flow results from the involvement and participation of the team using the data.
	Support Congruence	Support systems (e.g. Finance, HR, Legal, IT, etc.) should be established within a framework of social support for desired behaviors. Rewards, assessment & training should support the activities of the team. Management philosophy should be consistent across the enterprise & management's actions across the enterprise should be consistent with its expressed philosophy. Coherence of the whole is key.

NA Technical System Analysis – CORE TRANSFORMATION PROCESS definition & variance analysis

Work Process

Suppliers

Input
- Materials
- Information (order) or
- People

Unit Operation A → Unit Operation B → Unit Operation C

Output
- Product
- Service
- Solution
- Experience

Customers

Feedback

Repairing Equipment Unit Operations & Variances

Equipment in need of repair →

Job Plan
Tasks:
1. **Work order** received **Accuracy**
2. Priority assigned
3. Job scheduled
4. Equipment shutdown scheduled
5. **Mechanic** assigned **Availability**
6. Permits written

→ **Prepared Materials & Equipment**
Parts availability

→ **Diagnosed Equipment**
Accuracy of diagnosis

→ **Repaired Equipment**
Parts & Tools availability

→ **Tested Equipment**

→ **Equipment repair data recorded**
Data Completeness

→ **Equipment repair Follow-up**

→ **Repaired Equipment**

Technical System Analysis - Variance Control Table

1. **Key Variance**	Name – **Accuracy of customer order**	Description – completeness of information – time, cost, problem characteristics
2. Location	In which Unit Operations variance occurs Job Plan	During what tasks – work order is received
3. Causes	Internal	Multiple roles taking orders – no coordination
	External	Several customer channels – online, telephone
4. Consequences	What happens until variance is stopped	Delays to customer
5. Current Variance Control System	a) Where variance is detected	Job Plan or during diagnostic
	b) Activities to correct cause	Call customer to get correct information
	c) Who has skill, responsibility & resources	Mechanic
	d) Who has authority	Mechanic
	e) Problems with current variance control system	Delay in awareness of variance and rework costs could ultimately result in loss of customers
6. Ideas for: • Preventing variance • Improving the variance control system	a) Changes in role, job	Accuracy of customer order is part of everyone's job.
	b) Information flow changes	Information integrated from all sources for the job plan
	c) New skills needed	Everyone learns consequences
	d) Changes in authority	None
	e) Organization changes	
	f) Technical changes	Develop a computerized order system that automatically alerts person responsible to missing or inconsistent information

NA – Social System Analysis

INDIVIDUAL – Quality of Work Life (QWL)

I. Six Psychological Requirements for Motivating Work
1. Autonomy/elbow room for decision making
2. Learning – setting goals and getting feedback
3. Variety
4. Mutual Support
5. Meaningfulness – socially useful & seeing whole product
6. Desirable Future

II. Other Components of a Good Job – economic security, working conditions, equity/fairness, and resources to do the work

ORGANIZATION & GROUP LEVEL – People Working Together – Key Role Analysis & Decision Making Rights

GAIL FUNCTIONS	RELATIONSHIP CATEGORIES			
	Between Superior & Subordinate	Among Peers within a Group	Groups with other Groups within the larger Organization	Groups with other Groups Outside the Larger Organization
(G) Goal Setting				
(A) Adaptation				
(I) Integration				
(L) Latency [Long-term Human System Development e.g rewards, training, staffing, performance management, etc.]				

NA Nonlinear Work Design

Topics

Forums

Deliberation

Participants' POV

Information
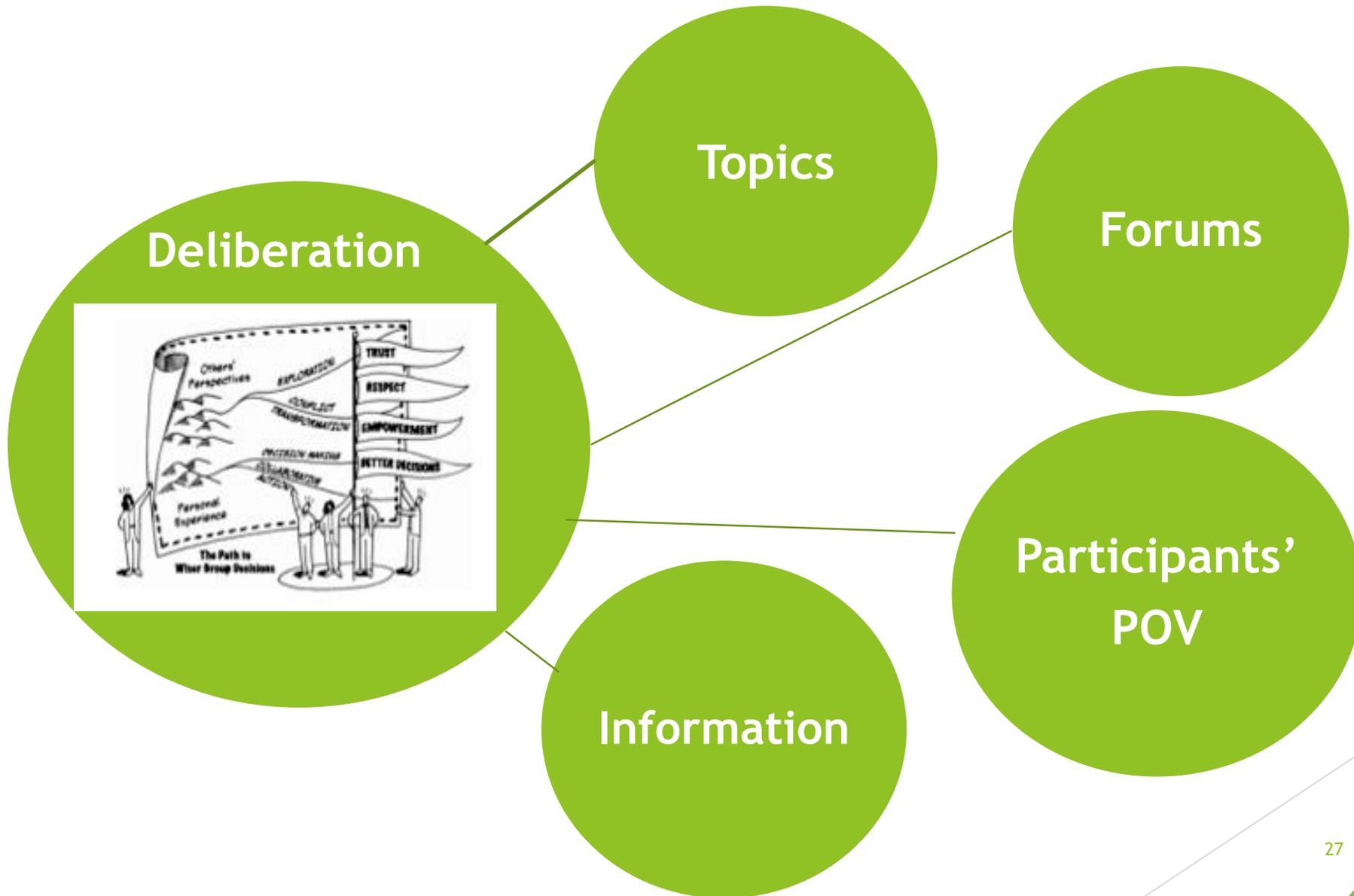
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▶ You have 30 minutes for this task.

▶ Please present your responses on flipcharts.

PART FIVE

- ❖ **Link to Global Network for SMART Organization Design**

- ❖ **Further questions to Chris & Carolyn throughout session or via email**