

Applied Ergonomics Model

in manufacturing enterprises

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Inn

- Management Commitment
- Values and Principles
- Leadership
- Organizational Culture
- Common Goals and Objectives

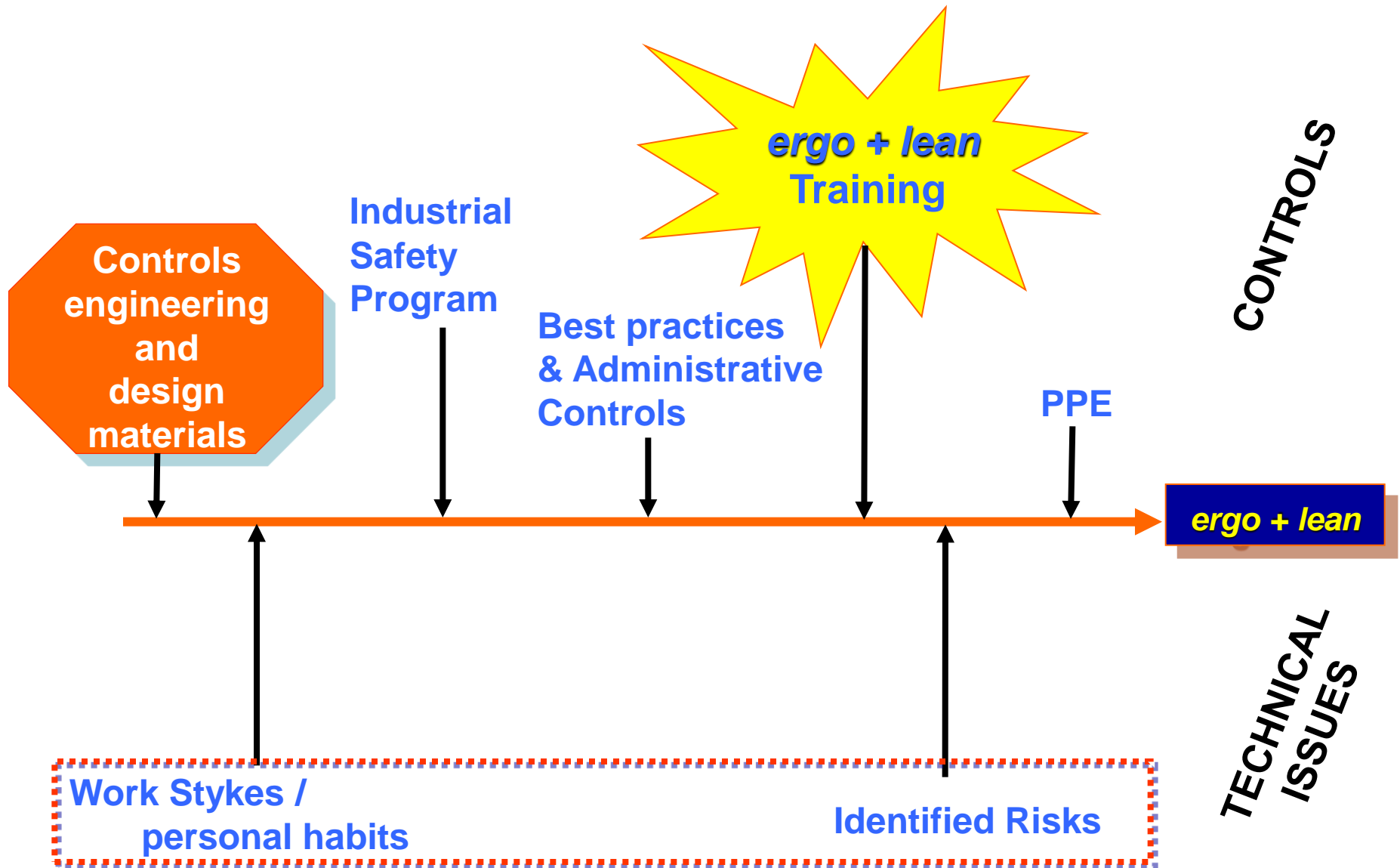
Process

- **Participation** → Teamwork
- **Synergy + Integration** → Continuous Training
- **Motivation** → Relevant to Recognition
- **Communication** → Effective and Timely
- **Discipline** → Consistent Behavior
- **Adaptability** → Creativity

Out

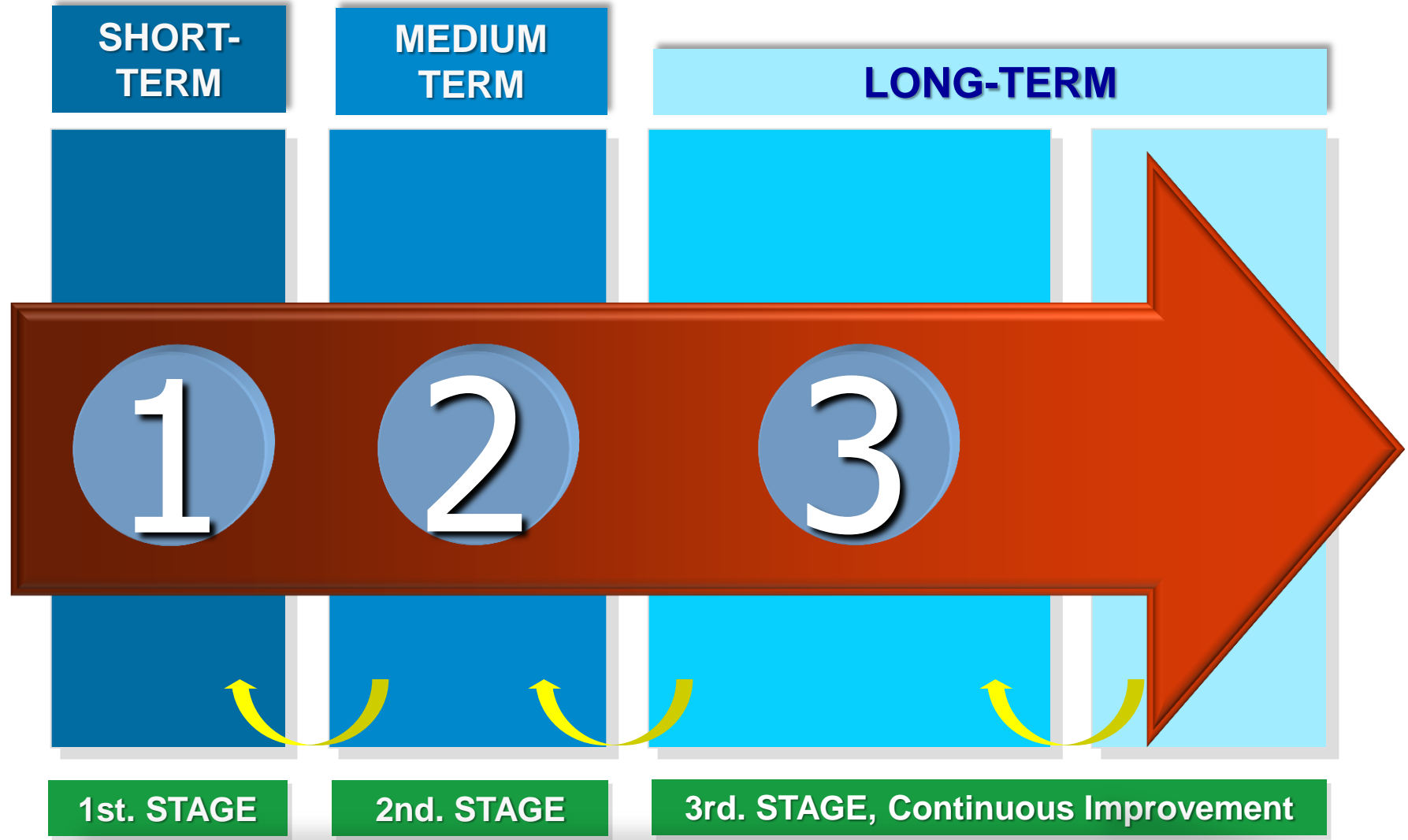
- ✓ Culture OHS
- ✓ Ownership
- ✓ Personal Development
- ✓ Responsible Attitude
- ✓ Excellence
- ✓ Commitment
- ✓ Win-win

⇒ *Applied ergonomics & lean manufacturing* seeks to facilitate human activity, designing work so that **appropriate, simple, safe & healthy**



☞ **PROCESS = CONSCIENCE + CAPABILITIES & SKILLS + COMMITMENT**

- ✓ Start at the **top management**
- ✓ **Permanent and progressive process**
- ✓ Is mainly based on **preventive action plans** and not just in the repair damage
- ✓ Apply the **entire chain** of production processes
- ✓ It is **measurable and could be improved**



1**AWARENESS**

- Preliminary Assessment of Risk and Detection of Needs
- Training Workshops (sensitize)
- Design Solutions – Floor Simulations

2**MAPPING**

- Risk Assessment of Critical Operations
- Training Workshops on Applied Ergonomics Methodological Tools
- Basis for Implementation of Technical Tools
Floor - Implementation of solutions

3**IMPLANTATION**

- Methodological and Operating Techniques Approved
- Follow-up Action Plans
- Management for Monitoring, Control and Continuous Improvement

Deliverables

- ✓ Establishment of theoretical & practical principles of ergonomics + lean
- ✓ Application of ergonomic & lean criteria in the conception and design of jobs, to redesign existing
- ✓ Using ergonomic methodologies to solve problems, with emphasis in the field of *human error* and *decision making*

Deliverables **2**

- ✓ **Ergo + lean team** comprehensive self-directed management
- ✓ Strengthening **active and creative**
- ✓ Reinforcement guided **commitment**, **involvement** and **innovative action** of employees
- ✓ **Self-management** ergonomic system

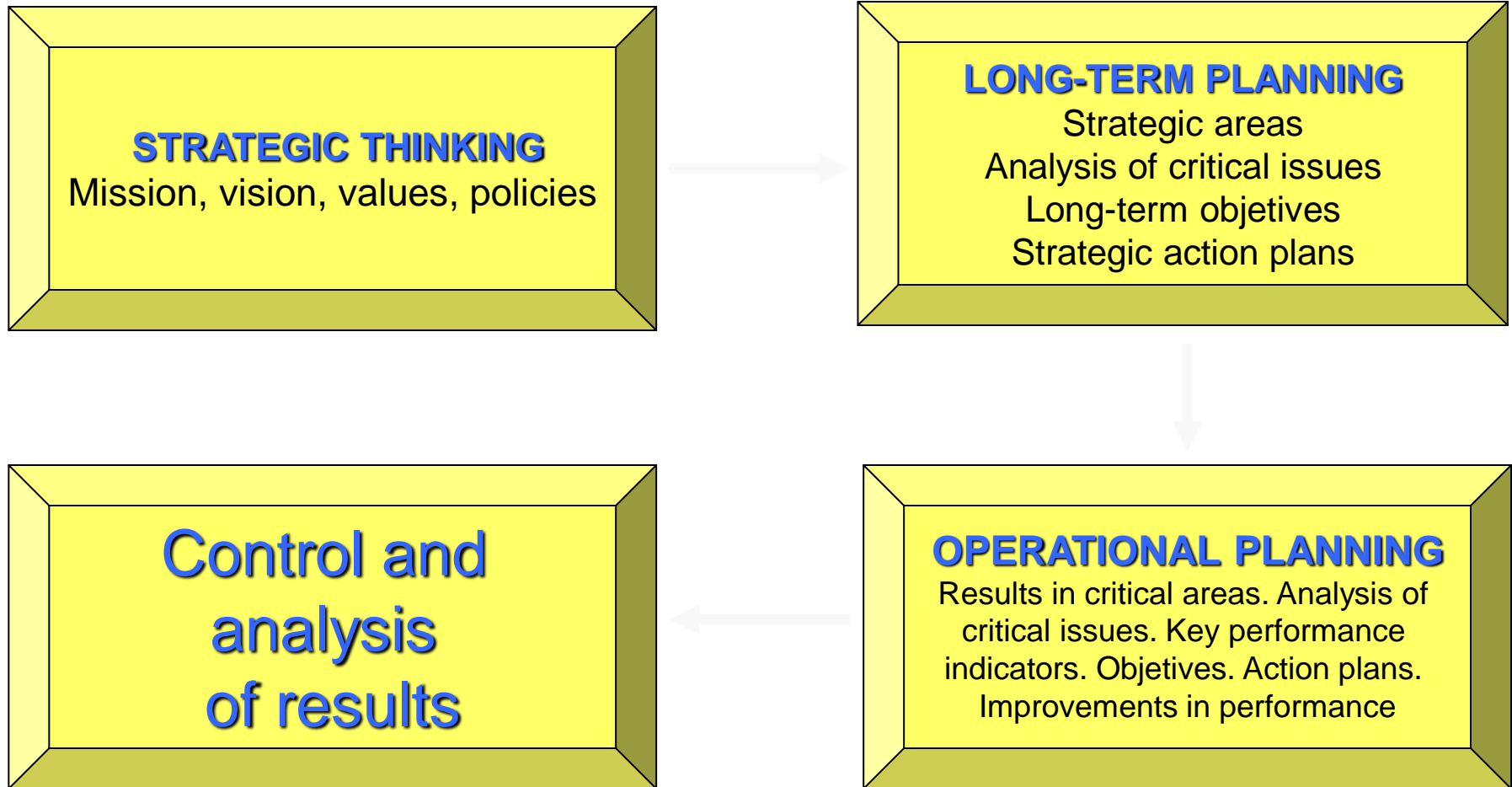
Deliverables **3**

- ✓ Integration System **audit team**
- ✓ Robust **corrective action**
- ✓ Emphasis on **preventive** and **predictive** of damage, not only in the corrective
- ✓ **Comprehensive improvements** for the overall system performance

Critical operations**RISK
FACTORS
IDENTIFIED****PHYSICAL****ORGANIZATIONAL****INDIVIDUAL****Work cycles****Rotating shifts****Stress work****Inadequate breaks****Job dissatisfaction****Age (cr, antig.)****Sex****Obesity****Competence****Experience**

1. Implementation of improvement in production lines
2. Design criteria in jobs
3. Successful *ergo + lean* process
4. Awareness *ergo + lean* on floor

This implies that ergonomics contributes to the optimization of both **human wellbeing** (a social goal) and **total system performance** (an financial goal)



- **Protecting Workers' Health**
- **Occupational Risks** Prevention
- **Culture of Continuous Improvement in Safety & Occupational Health** in floor
- **“Safe Production with Applied Ergonomics”** as a strategy

Ergonomics = at strategic business value

- ✓ Job **Rotation**
- ✓ Rest periods (**breaks dynamic**)
- ✓ Slot allocation **clockwise**
- ✓ Considering:
 - Restrictions and Regulations
 - Recovery mental, physical and emotional
 - Measurement of energy levels (physiological and psychological)