



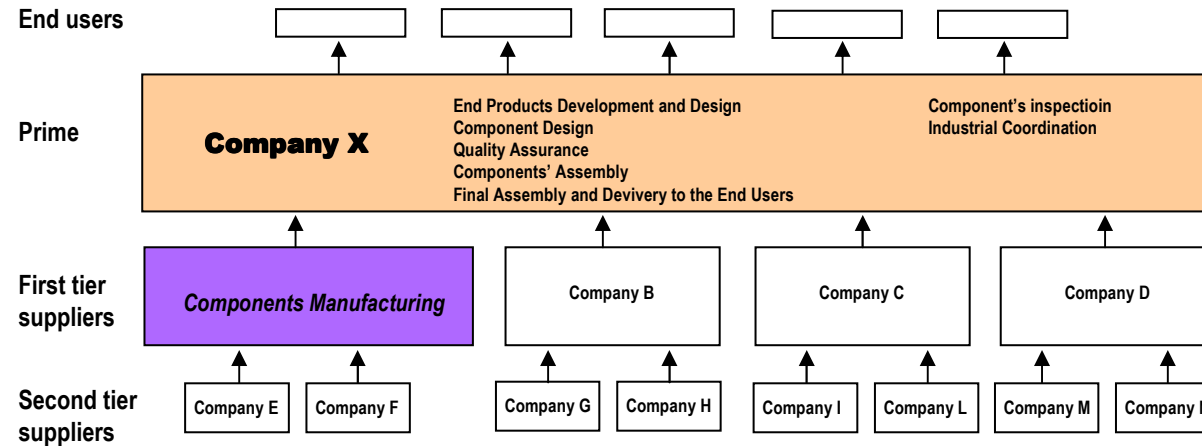
“Lean Manufacturing”

Napoli 17.05.2007

G.Baratto

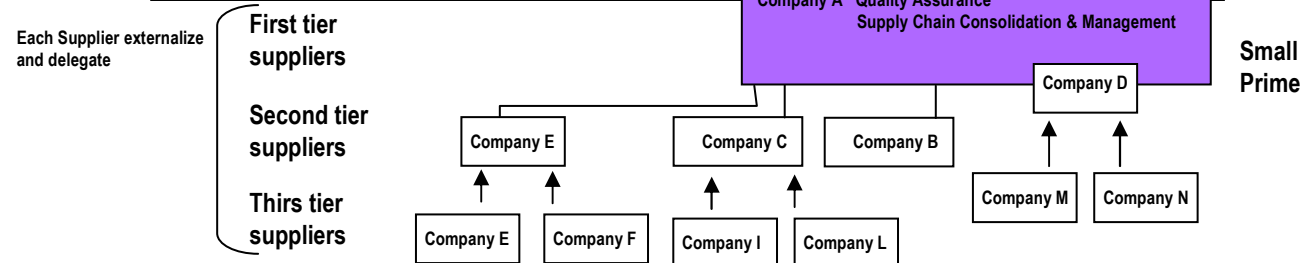
Supply Chain Evolution

TRADITIONAL SUPPLY CHAIN



PARTNERSHIP SUPPLY CHAIN

Transfer of responsibilities and activities to fewer first level manufacturers.



“PRIME”

- **Project Architecture Definition & Ownership;**
- **Large Scale System Integration (platform);**
- **Marketing & Sales (including financing);**
- **After Sales Services;**
- **Industrial Coordination – Global Partners Chain.**

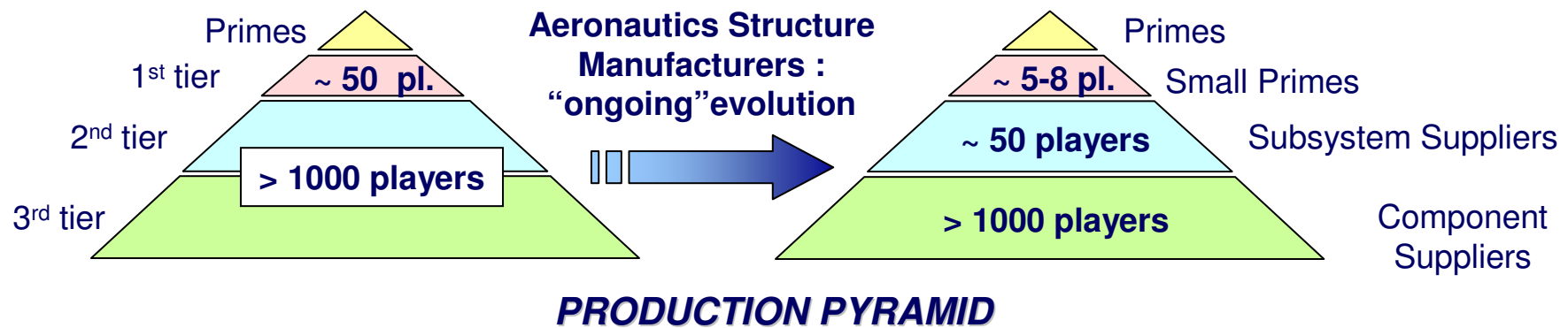
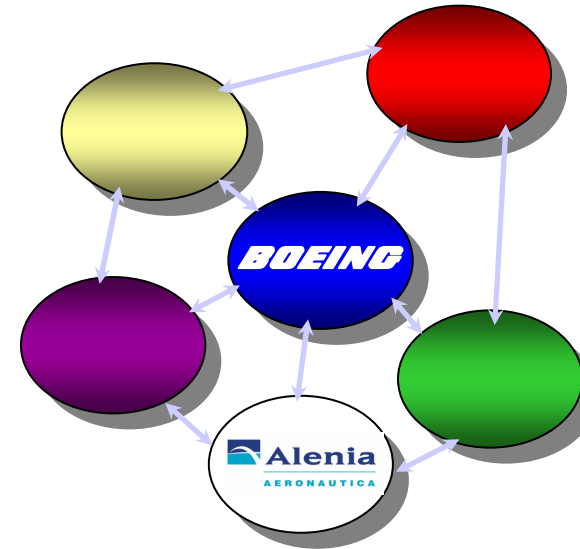
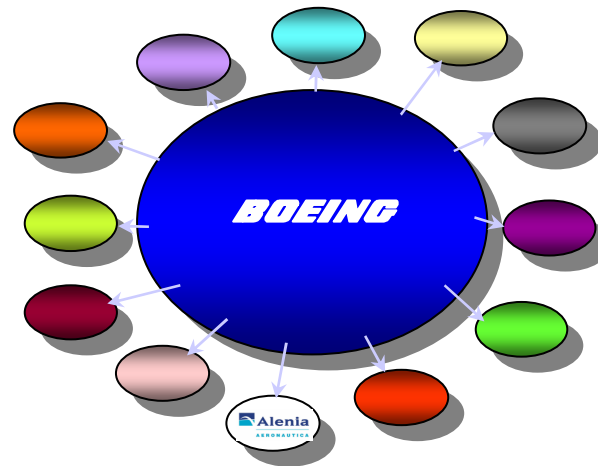
“SMALL PRIME”

- **Development & Design Components;**
- **Assembly components into major equipped subassembly;**
- **Supply Chain consolidation & coordination;**
- **Quality Assurance;**
- **Risk-share (cost, technology, market);**

“Small Prime” Key Capabilities

- *Technology and Processes Innovation;*
- *Engineering Capabilities;*
- *Production Capabilities;*
- *Program Management;*
- *Supply Chain Management;*
- *Quality Assurance;*
- *Financial Resources for Investments;*
- *In Country presence in Strategic Markets.*

Partnership - Business Model evolution



Management Values & Beliefs

Generates



Goals & Targets:

- High Quality
- Efficiency



The Management System

The System

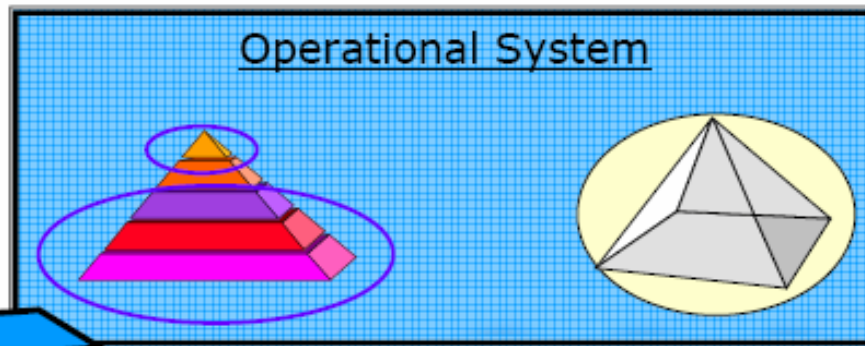
Is comprised of:

- Principles
- Tools

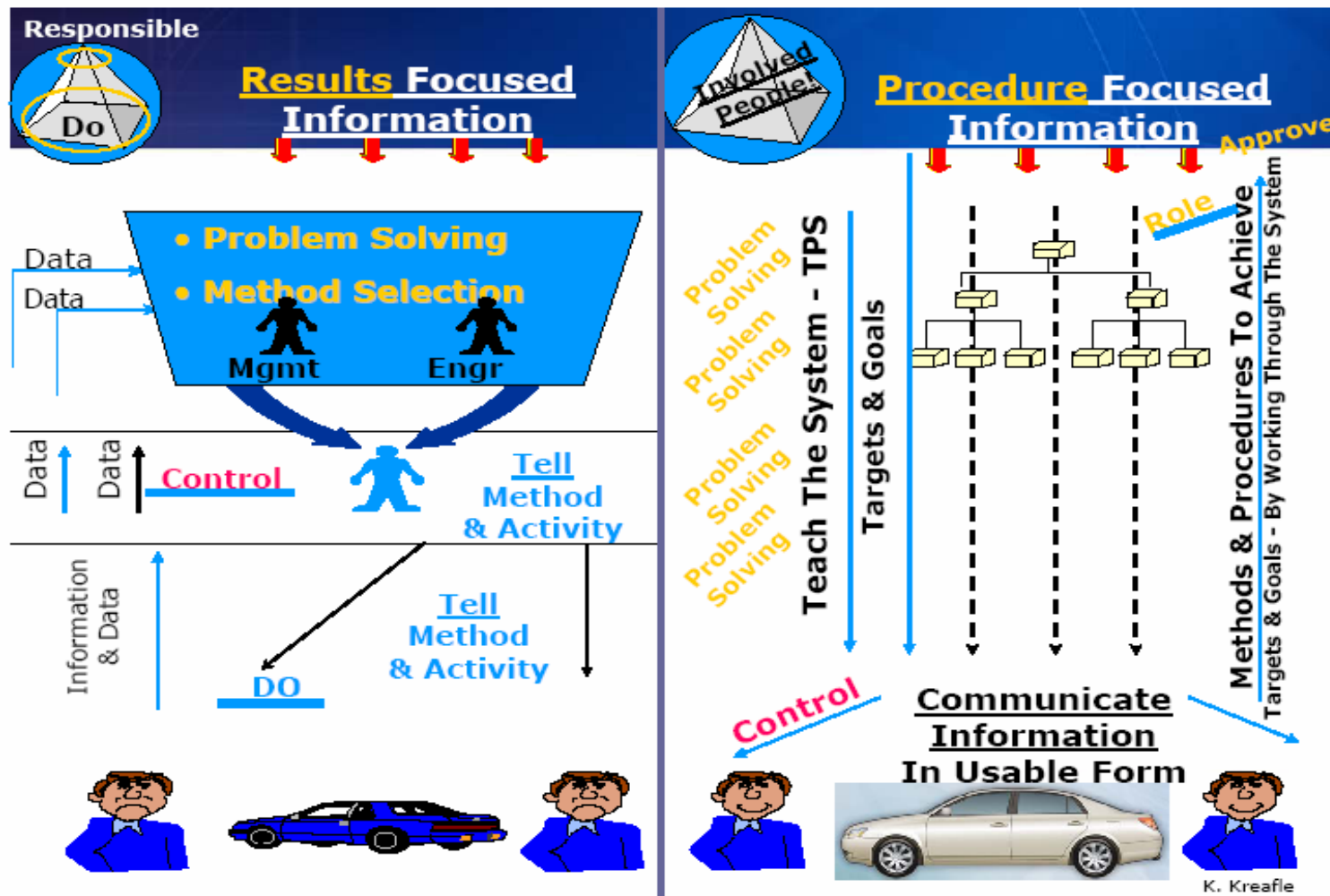
Creates

- Thinking
- Behavior

Operational System



K. Kreafle



K. Kreafile

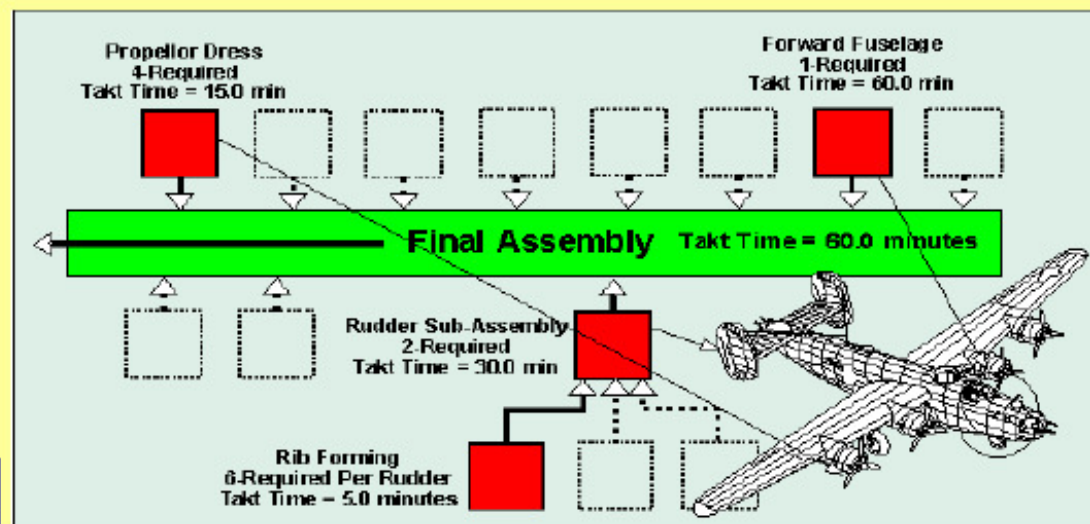
Real World Example: WWII B-24's

~1940: Charles Sorensen builds plant to output "a bomber an hour"

Stabilized operation by preventing inventory buildups, consequential stops and starts

A balance to the assembly process that ensures that all pieces arrive when they are needed

RESULT: Syncopated system with all pieces working in concert and a balance a balanced assembly line



Before our Lean Journey

Inefficient Production Processes



After Lean Implementation

Continuously Improving Processes



Systems Global Lean Strategy

Relazione Ing. G.Baratto

1. **VSM - Value Stream Mapping**
Analisi del flusso del valore di un processo
2. **VE - Value Engineering**
Ingegnerizzazione del valore
3. **5S - Sort, Straighten, Shine, Standardize, Sustain**
Selezionare, Semplificare, Pulire, Standardizzare, Mantenere
4. **DKW – Distribution Kaizen Workshop**
Miglioramento in ambito Logistico
5. **3P - Production Preparation Process**
Progettazione ed implementazione di un nuovo processo

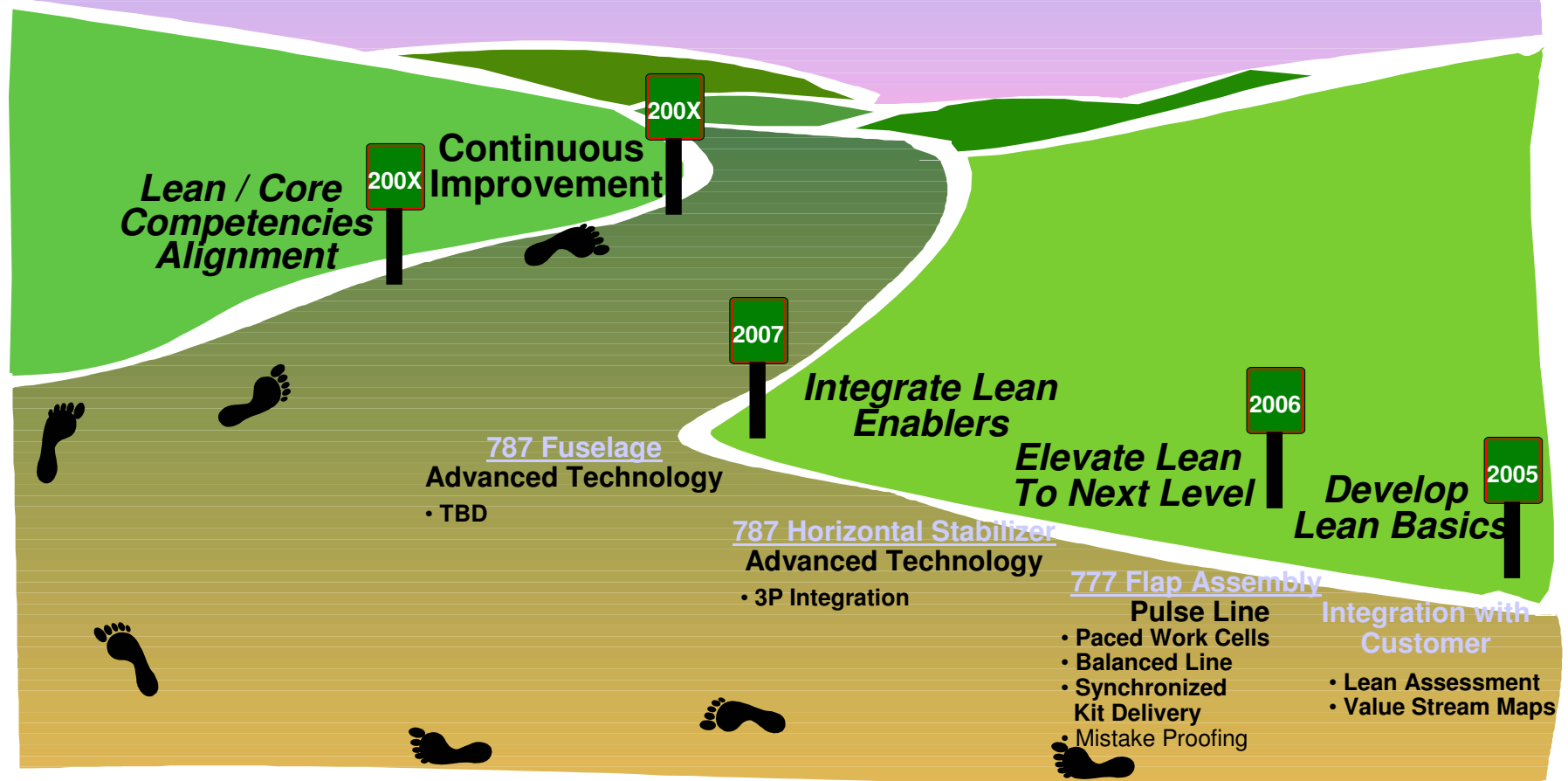
- 1. Definire il VALORE dal punto di vista del Cliente (ciò per cui il cliente è disposto a pagare);**
- 2. Identificare l'intero FLUSSO del VALORE (per evidenziare i MUDA – sprechi - nell'intera Supply Chain);**
- 3. Far FLUIRE le attività (lavorare per processi e non per funzioni, senza interruzioni, attese, rilavorazioni);**
- 4. Lavorare PULL e non PUSH (fare quello che serve quando serve, solo su richiesta del Cliente);**
- 5. Attuare sessioni di KAIZEN (miglioramento continuo).**

■ It's all about Flow

- The flow of information
- The flow of knowledge
- The flow of communication
- The flow of people
- ...all support the flow of products through the factory

■ By collocating people deliberately, placing workers who need to be near the products closest to them, you eliminate waste and non-value-added activity

LEAN MANUFACTURING

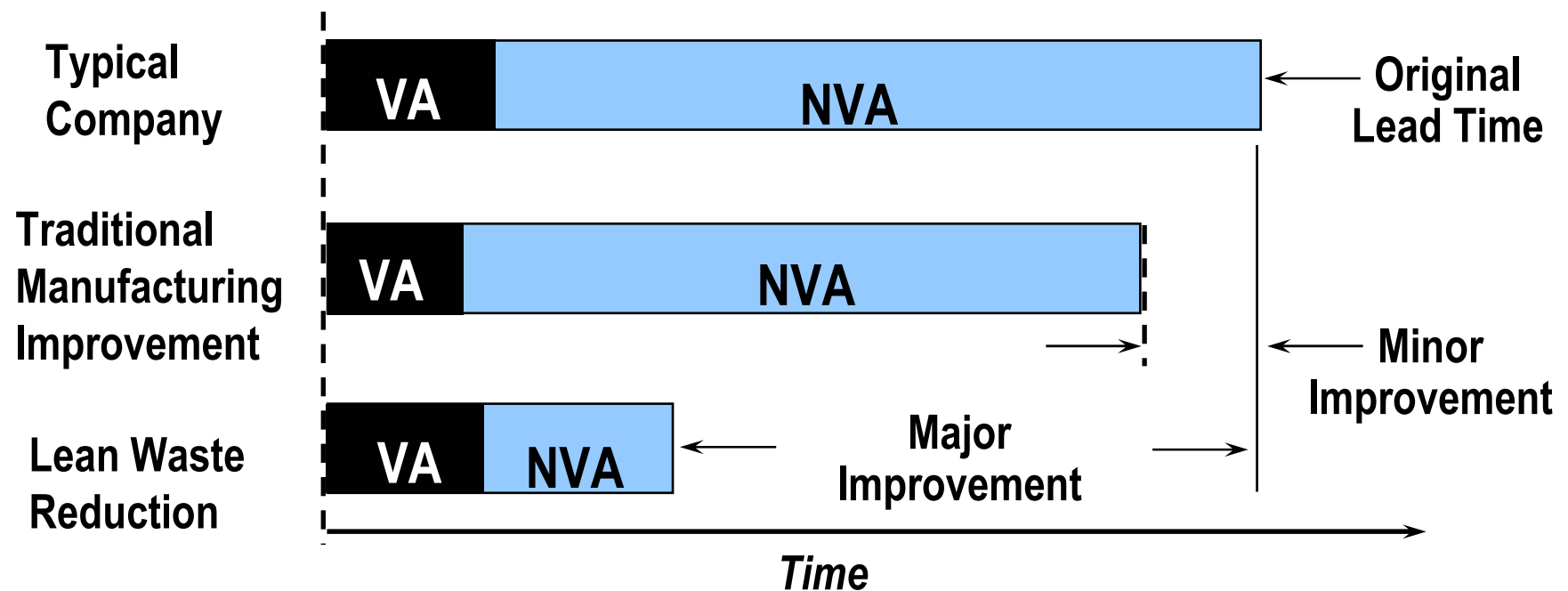


**Le più grandi opportunità di tagliare gli sprechi
sono nella ” Terra degli sprechi “ situata dovunque
nella Fabbrica :
gli uffici , l’ engineering , la fabbricazione ,
l’area dei servizi**

John R.Black

Director Lean Manufacturing R&D
Boeing Airplane Group

The method of reducing cost and increasing profit through the elimination of waste.

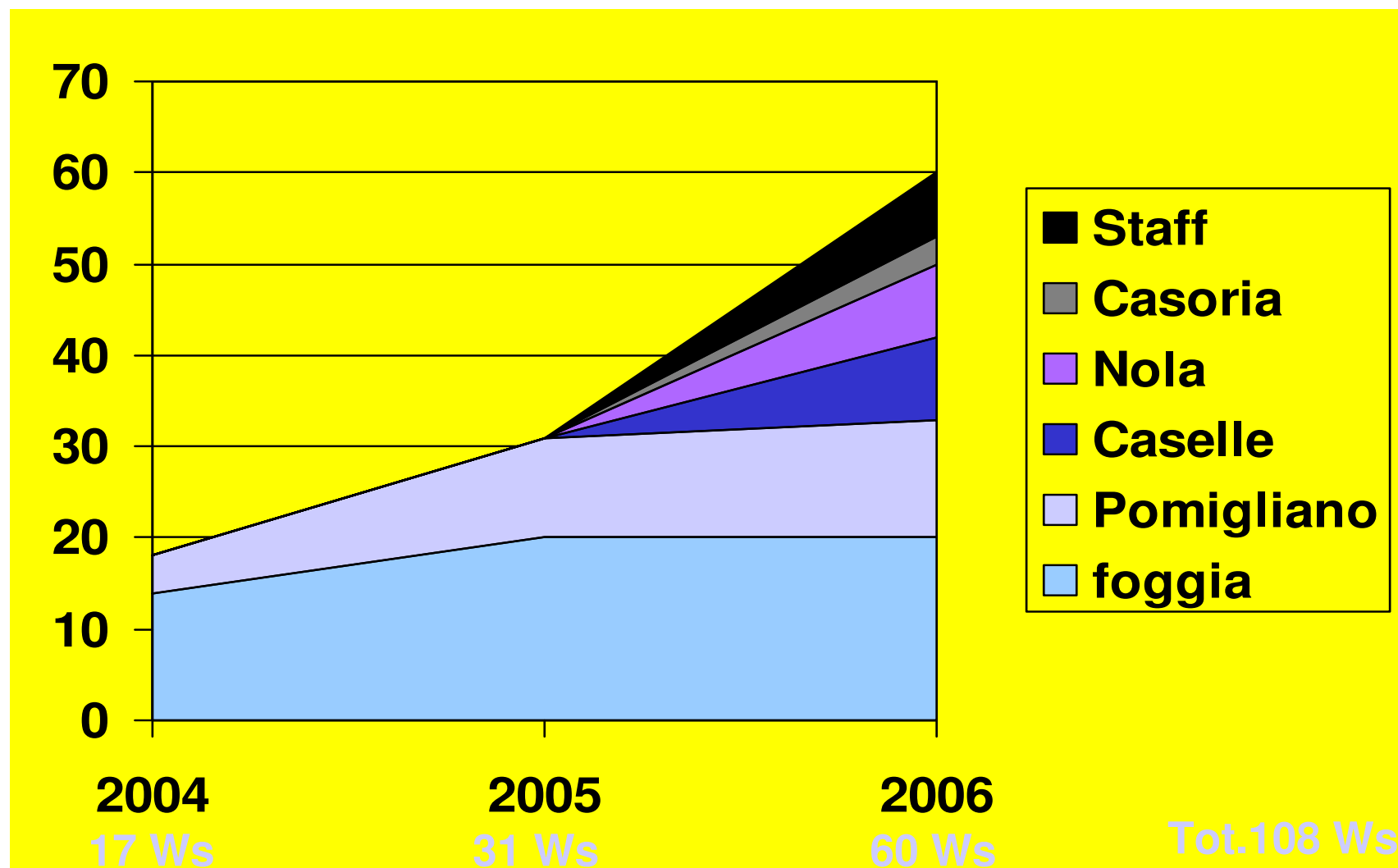




Esempi eventi Kaizen

Area intervento	Missione	Unità misura	Rilevazione pre-kaizen	Rilevazione post-kaizen	Saving	Saving %
- Ricezione/immag. di Acquisto (Pomigliano) - Parti finito	Riduzione lead time	Giorni		,5		-84%
Clean room B767	Recupero area per altri programmi			)	-65	-

La logica del "kaizen" prevede una mappatura sul campo dei dati caratteristici del processo da efficientare, l'identificazione di aree di miglioramento e la verifica sul campo mediante degli "eventi kaizen" dedicati





- Over capacity
- Buffer
- Back Up/recovery planning
- Multilevel organization
- Strong Production Planning
- Strong functional/job organization/formal reporting

GOING TO
LEAN ORGANIZATION

- Value stream mapping
- Jit, Pull System
- Continuous improvement
- Lean Organization
- Takt time production
- Visual control, Multiskill,

