

Lesson Learned –

Prepared and Unprepared  
Emergency Landing

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# Human Response to an Emergency

## - Myth

- Panic
- Short term irrational action without concern for others
- Sitting in a ruin, dazed and confused
- Difficult to predict behaviour

# Human Response to an Emergency – Reality

- Panic but generally rational
- Responsible when they have established their own personal survival
- Would look after others unless there is
  - No escape
  - No information
  - No leadership
- Still difficult to accurately predict human behaviour

# Crew Members Response to an Emergency

- Panic – difficulty in planning and making decision
- Must be able to respond immediately
- Use of emergency equipment
- Deal with pax to avoid panic
- Give positive instructions to pax

# Objectives of SEP Training

- Safety of passengers and that all crewmembers are prepared to address EMERGENCY circumstances.
- Discipline & Responsibilities, Communication, Operation Procedures, Emergency Procedures, Emergency Equipment, Crowd Control, Passenger Handling, Slide Jump, Survival & Water Survival, Firefighting and Smoke, Medical Aspects & First Aid, Dangerous Goods, Cultural Differences and CRM

# Safety and Emergency Training

Recurrent training – Review of :

- Incident/Accident/Occurrence
- Location & Handling of Safety Equipment
- Pilot Incapacitation
- Stowage of Articles in Cabin
- Surface Contamination Awareness
- Emergency Procedures including Evacuation and Crowd Control Techniques
- Medical Aspects ( including first aid)
- Crew Resource Management.

# Handling of an Emergency Landing

- Theory Training
- Practical Training
  - Command
  - Slide Drill

# Emergency Landings

## Prepared

- Time is available to prepare for the full procedure
- Fire/smoke, technical failure and bird strike
- Communication between flight and cabin crew established
- Time available could be as long as 40 minutes.

## Unprepared

- Not enough or no time to prepare for the full procedure
- Immediately after take off or prior to landing
- Typically just the sudden initiation of emergency command
- US Airways Hudson River landing had 3 minutes



# Cabin Crew Handling of an Emergency Landing

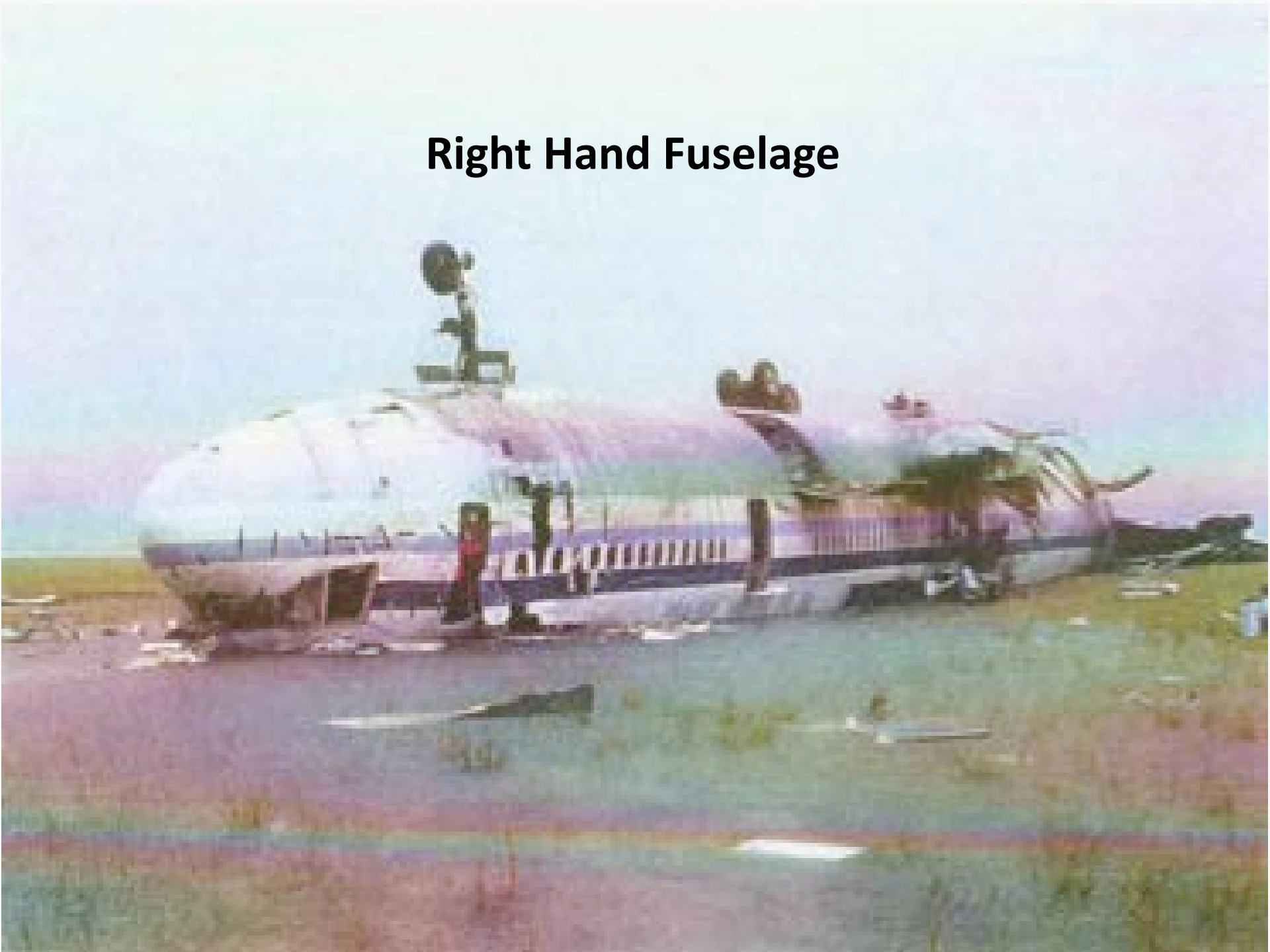
- Would Emergency Landing (prepared and unprepared) and subsequent evacuation be like a textbook case ?
- Could all the planned emergency procedures be completed like how we were trained ?

# Aircraft Accident MD-11

- 22 August 1999
- Local time : 1843 hr
- Weather in heavy rain with gusty wind from west north west
- Landing on a south-westerly direction
- Generally dark night
- 300 pax and 15 crew members



## Right Hand Fuselage



# Main Wreckage



# Left Wing



# Right Forward Fuselage



# Right Hand Fuselage





# Issues presented in the Cabin immediately after Crash Landing

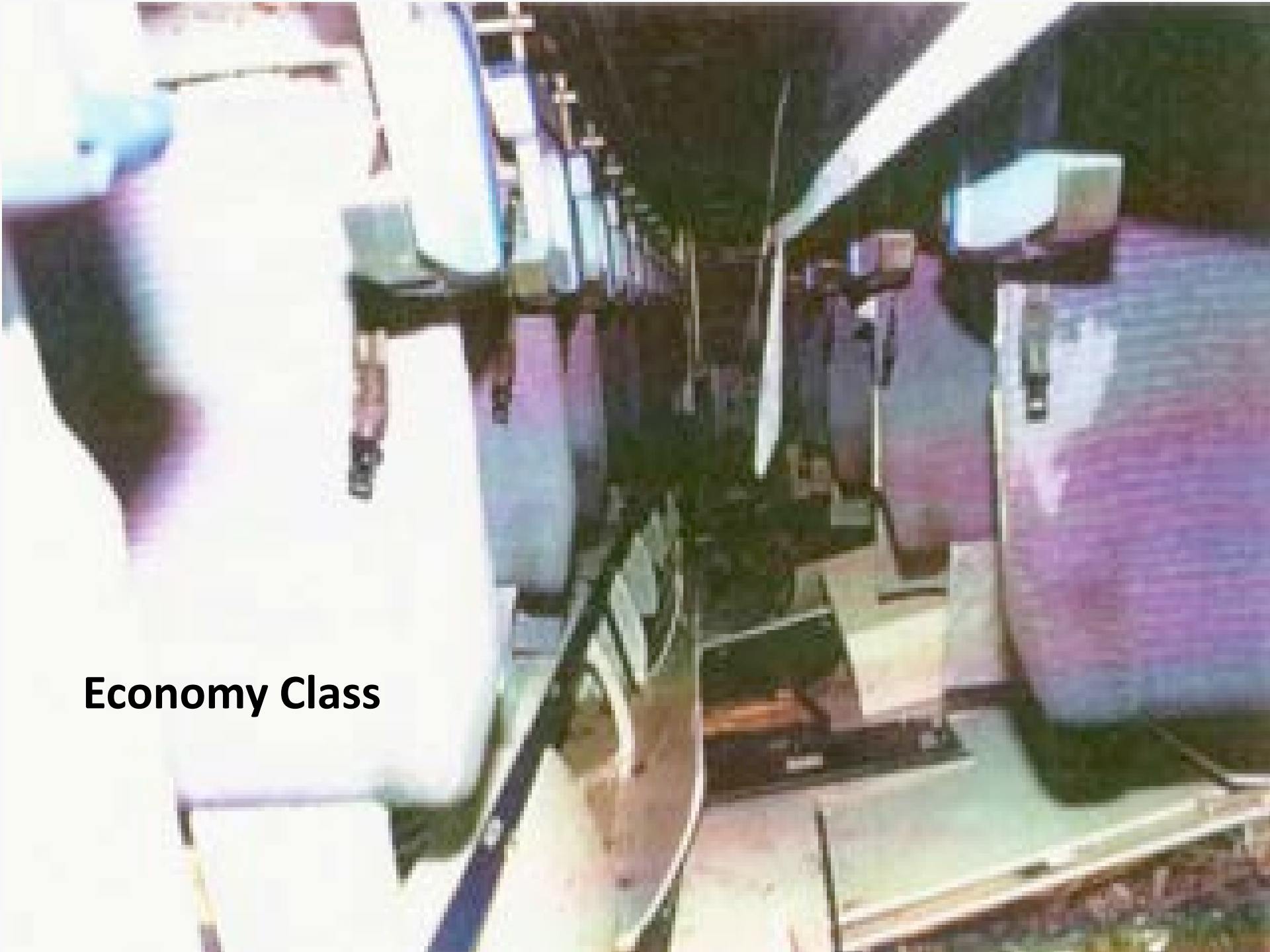
- Comparative darkness – floor path lights became ceiling lights
- Disorientation – aircraft now upside down
- Communication difficulties
- Flashes of fire in the cabin
- Total chaos

# Issues presented in the Cabin immediately after Crash Landing

- 5 exits jammed – L1, R2, R3, L4 and R4
- 3 exits missing (R1, L2 and L3) and an opening in the fuselage
- All Slides – did not deploy
- Debris and pax baggage
- Overhead bin became an obstacles
- Pax hanging upside down



**Business Class**



**Economy Class**

# Rescue Operations

- First intervention on fire – within 2 minutes
- Fire suppressed within 5 minutes
- Fire extinguished in 15 minutes
- 200 pax rescued after 10 minutes
- All persons accounted for after 8.5 hrs
- 3 fatalities, 50 serious injuries
- Head, lower limbs, neck, back injuries, burn or scald, smoke inhalation

# Left Wing



## Left Forward Fuselage



# Left Forward Fuselage





**Door 3L was missing**



**Left Forward Fuselage**










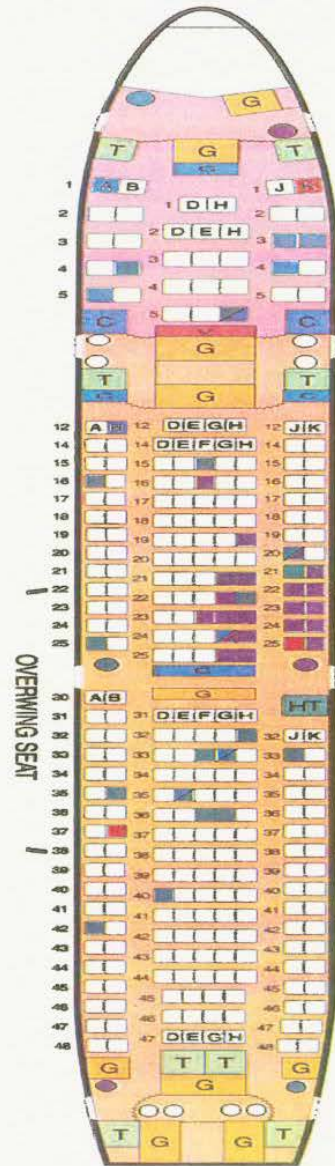


**View of lavatory just inside 3R**






**SEAT LOCATIONS OF SERIOUSLY INJURED PERSONS**

**圖示說明 KEY TO AMENITIES**

- |  |  |
|--|--|
|  尊皇商務客艙<br>Dynasty Business Class |  經濟客艙<br>Economy Class      |
|  影音控制室<br>Video Control Center    |  特殊設備盥洗室<br>Handicap Toilet |
|  盥洗室<br>Toilet                    |  機上廚房<br>Galley             |
|  衣帽間<br>Coat Closet               |  |



**LEGEND**

-  — Dead (3 pax)
-  — Burn or Scald (21 pax, 3 F/A)
-  — Head Injury (10 pax, 1 F/A)
-  — Other
-  — Injuries (18 pax, 2 F/A)










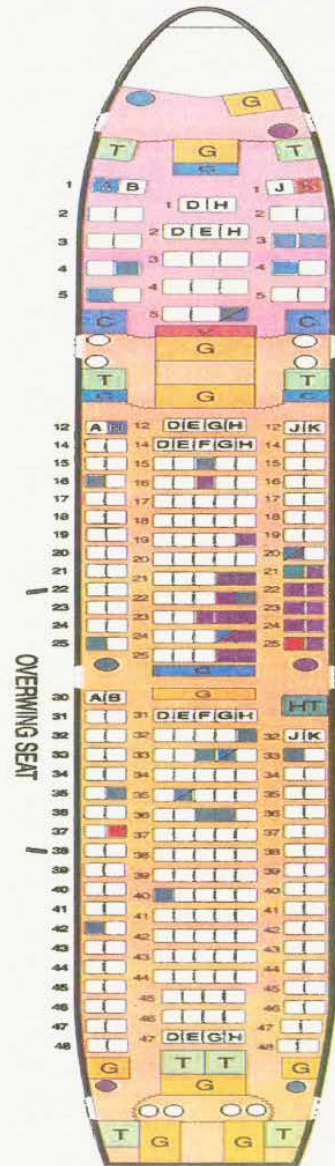
**Seat 1J and 1K**








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# Prepared and Unprepared Emergency Landings – Lesson Learned

- Time available for preparation for textbook scenario
- Training and Practical drill is a tool to arm yourself
- Discussion on accident and incident scenario
- Review silently
- Statistically, most occurrence would allow time for review



# Prepared and unprepared Emergency Landings – Lesson Learned

- Management Planning
- Emergency Procedures
- Training Analysis
- Practical Training
- Review

# Prepared and unprepared Emergency Landings – Lesson Learned

- Understand human responses – planning
- Leadership
- Control
- Coordination

Thank you