PLM, The Digital Thread and ASD Standards

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- Introduction
- Evolution of ILS Practices and Software
- The desired end game/goal – why is the digital thread so critical?
- Integrating PLM, S3000L and S1000D into this thread
- Where could we evolve to?
- Q&A

ARMY

NAVY

NASA

US DoE

A&D

FED

How the ILS standards have evolved…

Mil Std 1388-1	Mil Std 13882A	Mil Std 13882B	DS-0060	GEIA-0007	TLCSM /PLCS	ASD Suite

1973   1984   1991   1998   2008   200X

As technology and computing power have evolved so have ILS standards…

ORDER FROM CHAOS

Is the Pentagon headed for a military readiness crisis?

Michael E. O'Hanlon · Thursday, October 12, 2017

DoD BUZZ

🏠 › News › DoDBuzz

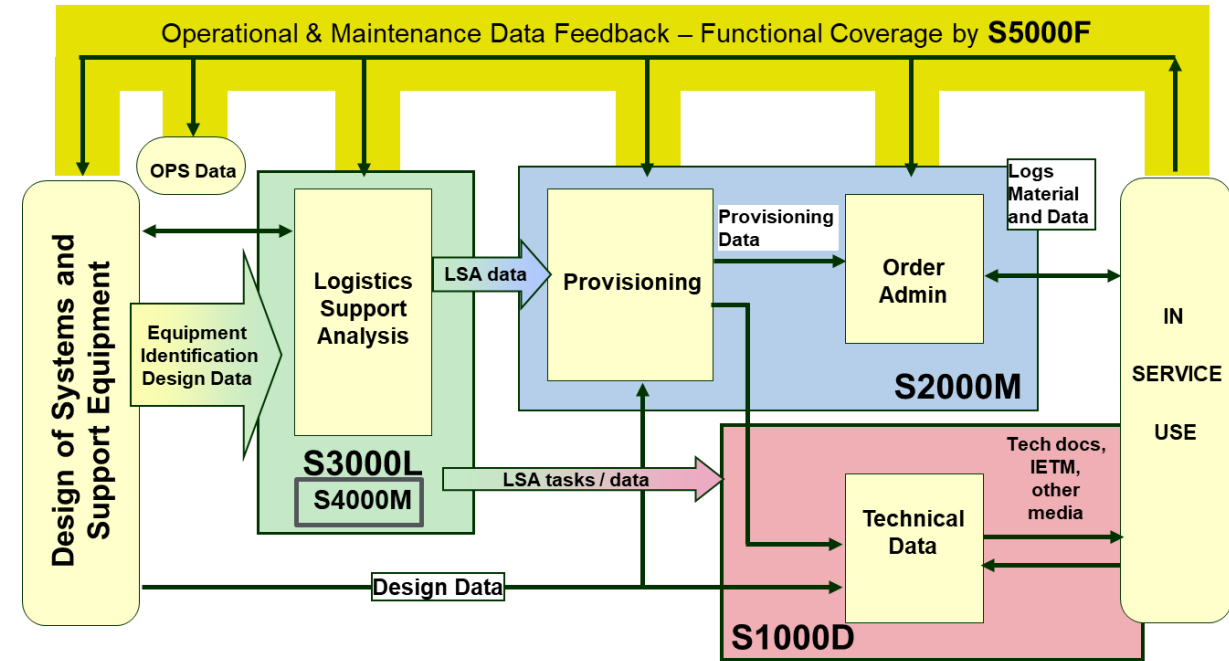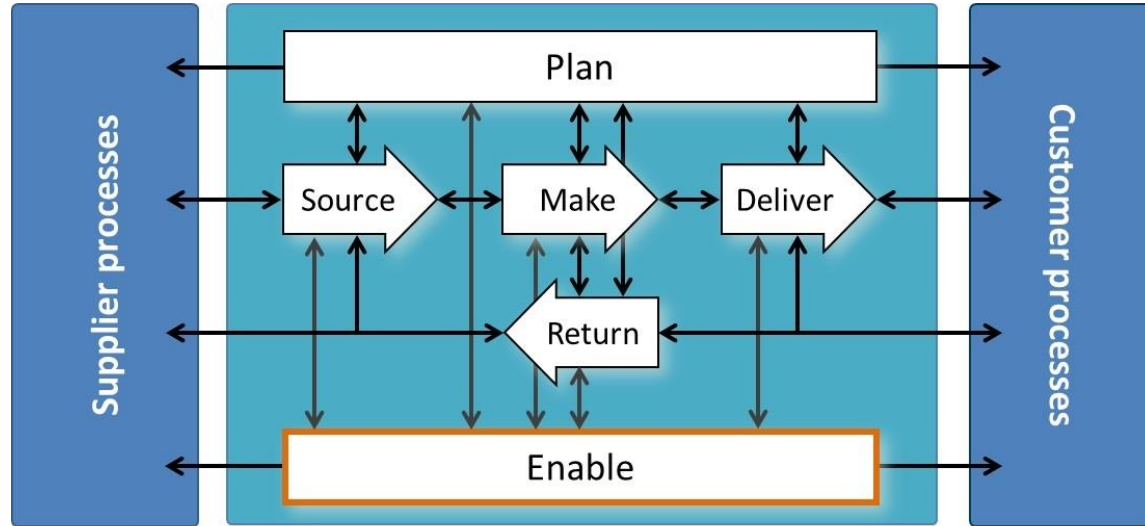## Navy Cutting Maintenance, Cannibalizing Planes Amid Readiness Crisis

Your Air Force

Growing readiness woes: Only 7 in 10 Air Force planes are ready to fly

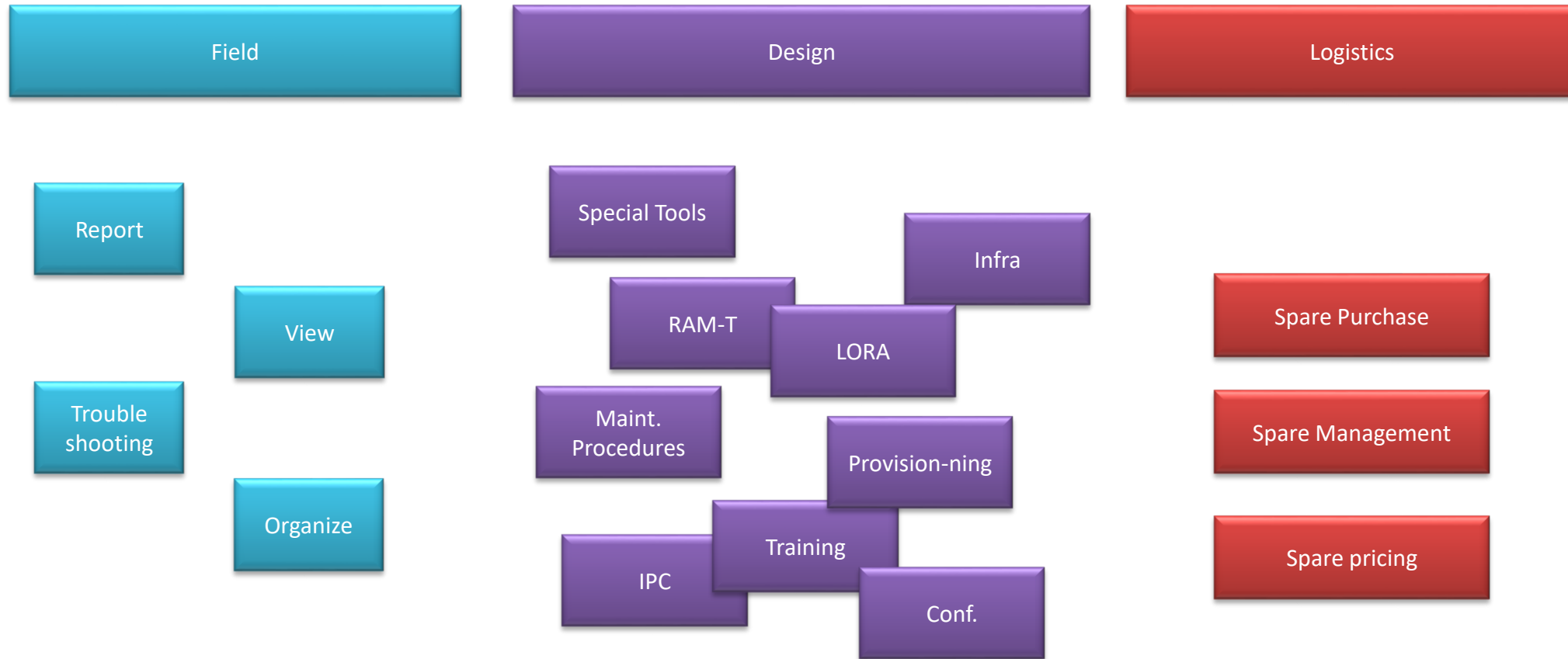By: Stephen Losey   📅 April 2, 2017

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- Its not a technology problem

- It's a mindset, process and policy problem

- People are risk averse - "its easier to do what we did on the last program…."

- But that isn't going to crack this nut…

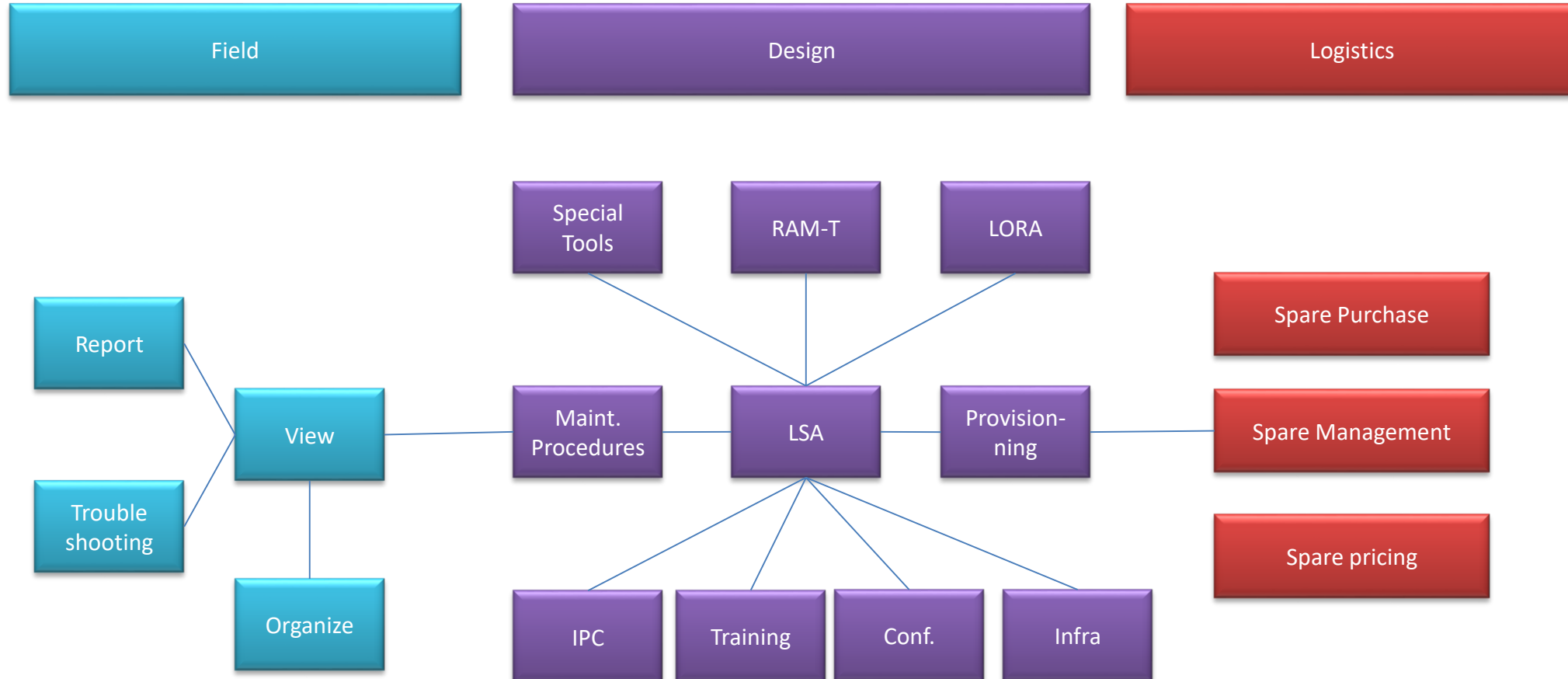"Insanity is doing the same thing over and over again and expecting different results"

Albert Einstein
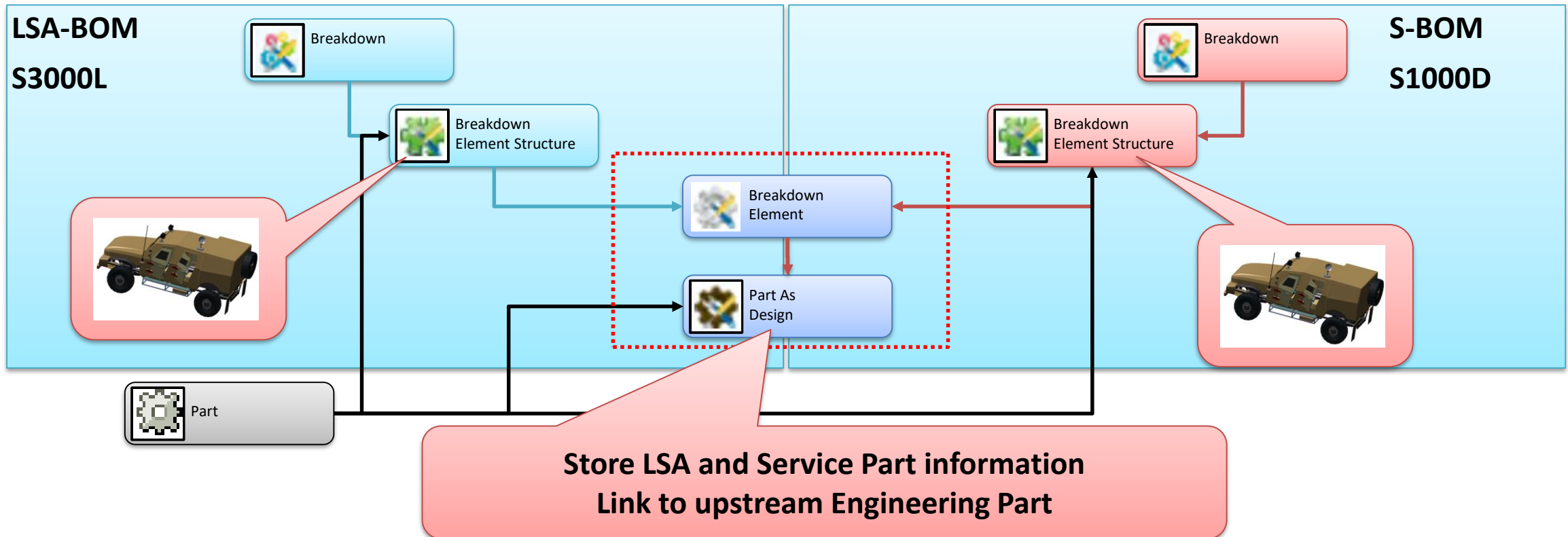
Traditional system of support

Field	Design	Logistics

Field
- Report
- View
- Trouble shooting
- Organize

Design
- Special Tools
- Infra
- RAM-T
- LORA
- Maint. Procedures
- Provision-ning
- IPC
- Training
- Conf.

Logistics
- Spare Purchase
- Spare Management
- Spare pricing

Introducing model based LSA initiative (S3000L)

Integrating PLM, S3000L and S1000D into this thread

Open

Unified
data

Connected

LSA-BOM
S3000L

Breakdown

Breakdown
Element Structure

Breakdown
Element

Part As
Design

Part

Breakdown

Breakdown
Element Structure

S-BOM
S1000D

**Store LSA and Service Part information
Link to upstream Engineering Part**

LSA analysis – candidate items

LSA to S1000D – Data Module Generation

Think outside the box.. Think with the end state in mind..

- We have to unlock every technological advantage we can for our customers…
- We have to unlock the value of breakthrough technology such as IOT and Augmented Reality to train and equip the next generation of maintainers
- This is only possible at scale, if we institute a robust digital thread for sustainment and lifecycle support.
- We need to re think the way we do logistics to allow this.

Augmented, Virtual Reality: Changing Airmen's learning experience

By Staff Sgt. Chip Pons, Air Education and Training Command Public Affairs / Published January 10, 2018

Integrating Systems to Life Management Processes

Diagnostics
3) Diagnostics rules and maintenance schedules are used to identify or predict maintenance needs

Supply, Provisioning
4) Required parts are identified or ordered via optimal supply location, owner, utilization, condition.

Alerting
2) ThingWorx application monitors sensor data and confirms that problem or other conditions exist that trigger maintenance

Work-order Automation
5) Work Order generated in the maintenance systems with parts status for technician scheduling

Data Capture
1) Sensor data gathered from connected asset inside depot

Asset Restored
7) Service is performed, restoring asset to proper condition

Technical Data Integration
6) Required technical data and instructions are located and attached to work order

Thank you

for your attention!

Questions?