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Gás Natural e Biocombustíveis

# **Brazilian National Agency of Petroleum, Natural Gas and Biofuels**

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**New Orleans, LA**

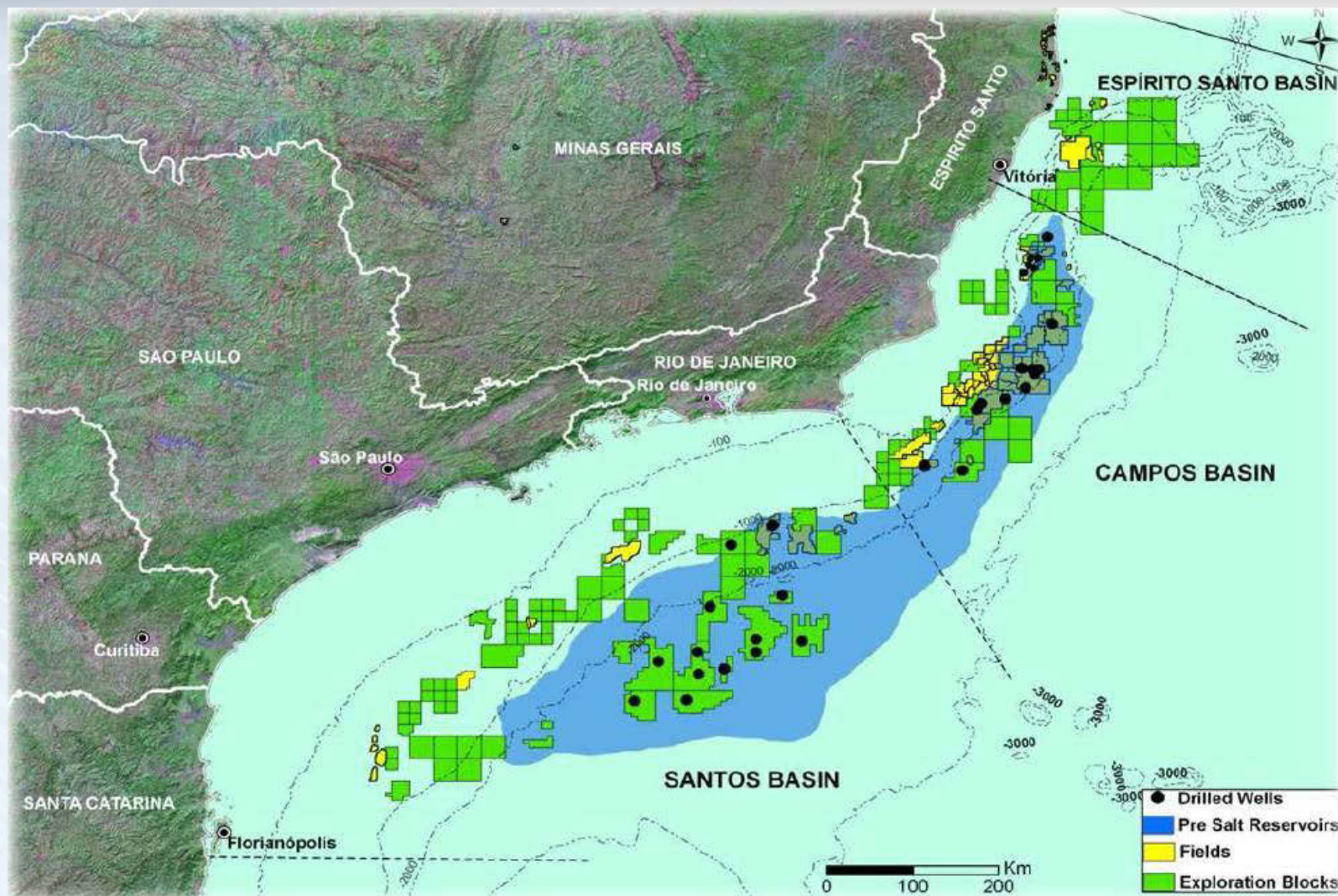


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**How do we encourage timely, proactive standards development?**



# Brazilian natural vocation – Offshore

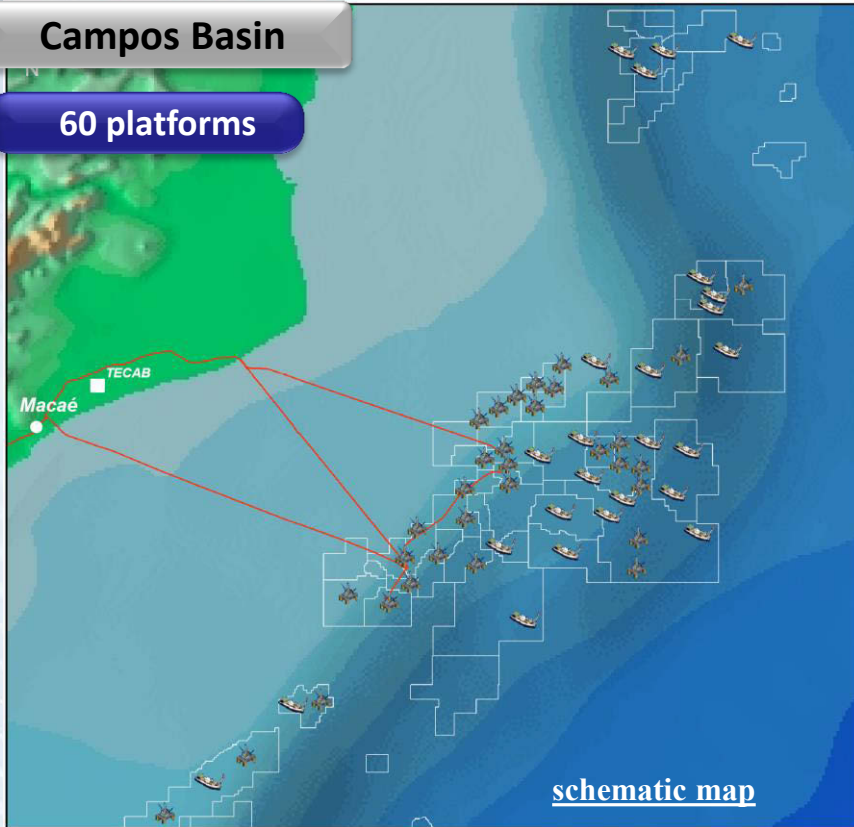




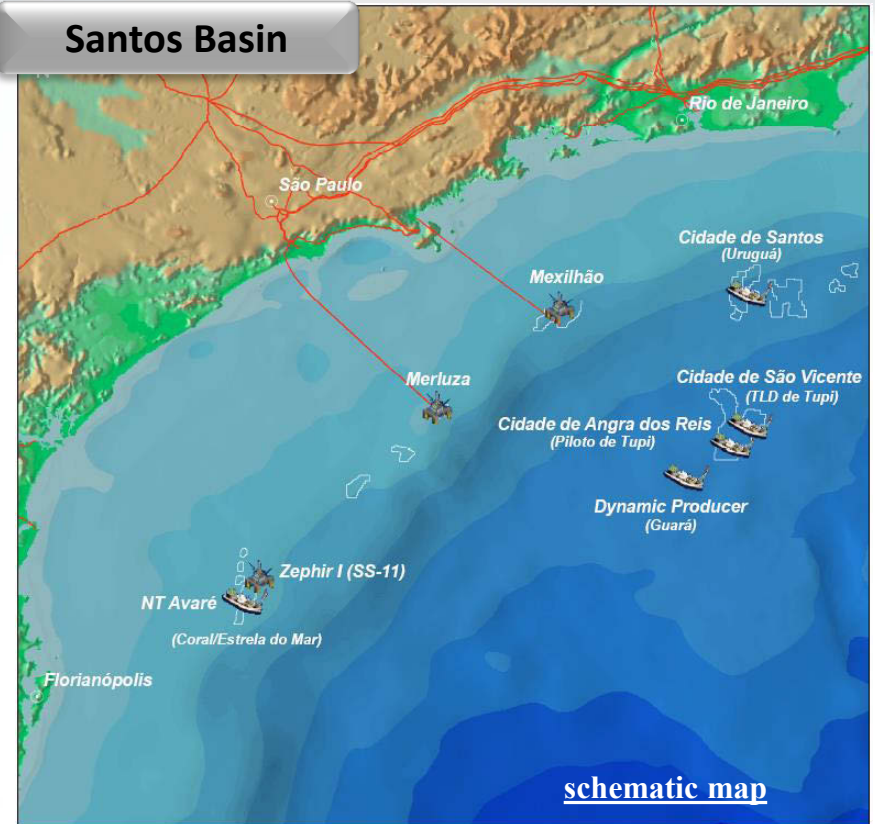
# Brazilian natural vocation – Offshore

## Campos Basin

60 platforms



## Santos Basin



**Today: Brazilian oil production in deep water is about 25% of global production.**

**In 2020: about 40% due to pre-salt discoveries.**

**If predictions are proven: needs on infrastructure, installation aging and regulation.**



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# Needs of regulator and how can industry satisfy objectives?

## • A pre-salt recent case:

### ❖ Unit:

❖ FPSWO

❖ 30,000 bbl/d

### ❖ Purpose:

❖ Extended Well Test (EWT)

❖ Early Production (EP)





# Needs of regulator and how can industry satisfy objectives?

## • The accidents:

❖ Consecutive ruptures at a tool joint of the EPR (Early Production Riser)

❖ 2011, March, 1<sup>st</sup>

- ❖ After 61 days of work
- ❖ rupture @ 500m depth
- ❖ No environmental harm

❖ 2012, January, 31<sup>st</sup>

- ❖ After 111 days of work
- ❖ rupture @ 680m depth
- ❖ 114 bbl oil spill



<http://www.akersolutions.com>

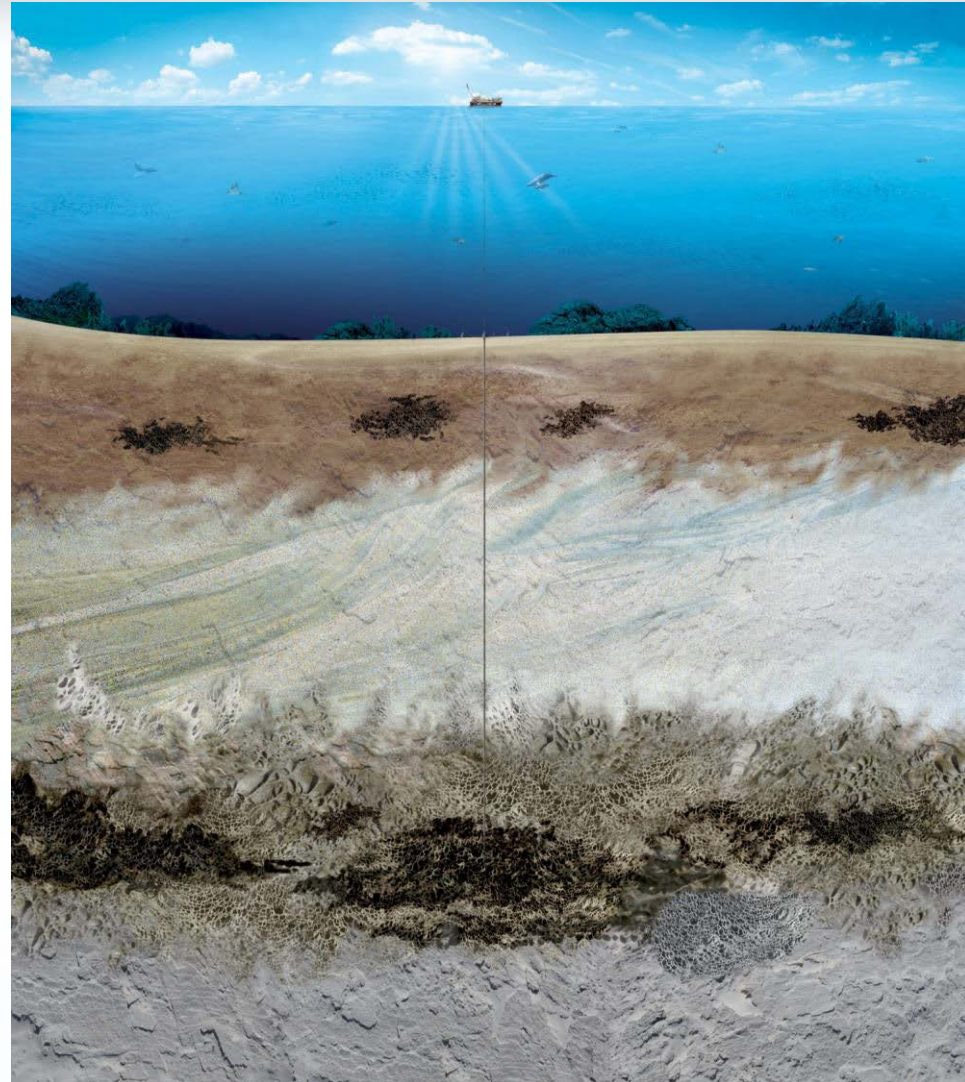


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# Needs of regulator and how can industry satisfy objectives?

## • The investigation results:

- ❖ Company representatives admitted they had not conducted risk analysis at the design stage of the EWT.
- ❖ The company standards treated risk assessment and risk management as a business decision, even in the case of technology frontier.





# Needs of regulator and how can industry satisfy objectives?

## • The investigation results:

- ❖ Moreover, the company affirmed to comply with documents listed bellow:
  - ❖ National Legislation:
    - ❖ CETESB, 2006: Analysis, Assessment and Risk Management
  - ❖ International Standards:
    - ❖ ISO 17776:2002
    - ❖ IEC/ISO 31010:2009
    - ❖ **API RP 75**
  - ❖ Other International References:
    - ❖ Guidelines for Risk Based Process Safety, AIChE, 2007
    - ❖ Guidelines for Hazard Evaluation Procedures, AIChE, 2008







# Needs of regulator and how can industry satisfy objectives?

## • Actions:

- ❖ In fact, the company standards did not met the cited references.
- ❖ In Brazil, the choice of an adequate technique for risk assessment is not a matter of business preference; the compliance with best practices are mandatory.
- ❖ Prohibition of the use of the EPR until the company proves to attend National Legislation:
  - ❖ ANP Resolution 43/2007: Operational Safety Management System





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# Needs of regulator and how can industry satisfy objectives?

## • Conclusions:

- ❖ There are enough standards regarding some subjects, such as “safety risk management system”.
- ❖ There is a difficulty to make the companies comply with them.
- ❖ Analogous case: 2010, Macondo.
  - ❖ There are available standards concerning safety barriers on wells
  - ❖ The company did not applied the recommended practices



<http://news.nationalpost.com>



# Needs of regulator and how can industry satisfy objectives?

## • Needs of Regulator:

- ❖ Industry should be
  - ❖ Proactive
    - ❖ Do safety risk assessment
    - ❖ Manage safety risk
    - ❖ Follow standards
  - ❖ Collaborative with regulator
    - ❖ Determine safety issues, specially regarding new technologies and processes
    - ❖ Suggest pertinent enhancements for regulation and standards





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**How are incident and performance data being used to help determine standards needs?**

**What are the near and longer term strategies for data gathering and assessment?**



# Performance data gathering and assessment

## • Near term strategy – Own Software:

- ❖ SISO – Operational Safety Integrated System
  - ❖ Information on offshore incidents
  - ❖ Leading and lagging data

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## SISO

Sistema Integrado de Segurança Operacional

### Autenticação

Informe seu CPF, o CNPJ da empresa e senha para acessar o Sistema Integrado de Segurança Operacional:

CPF:

CNPJ:

Senha:

**Login**

Bem vindo ao Sistema Integrado de Segurança Operacional.

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Para maiores informações sobre o sistema SISO, veja a [Resolução 44](#) e o site da [ANP - Agência Nacional do Petróleo, Gás e Biocombustíveis](#).

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# Performance data gathering and assessment

## • Long term strategy – IRF’s initiative:

### ❖ IRF performance measurement project

#### ❖ Project goal

- ❖ To measure and compare offshore safety performance among IRF participants by collecting and comparing incident data based on a common set of criteria.



International Regulators' Forum  
GLOBAL OFFSHORE SAFETY



IRF COUNTRY MEMBERS





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# Performance data gathering and assessment

- **On subsea safety systems performance data gathering:**

- ❖ Today, ANP does not gather performance data about subsea safety equipment.
- ❖ Standards such API RP 17, ISO TS 16530-2 and OLF 117 are being studied





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**How do we collectively ensure that standards are rigorous and challenging?**

**How important is international consistency? How do we best achieve our consistency objectives?**





- **Suggestions:**

- ❖ Standards consolidation

- ❖ Concerns:

- ❖ Regulators must be heard

- ❖ e.g. regarding their policies, legislation

- ❖ Industry must be heard

- ❖ e.g. regarding available technology

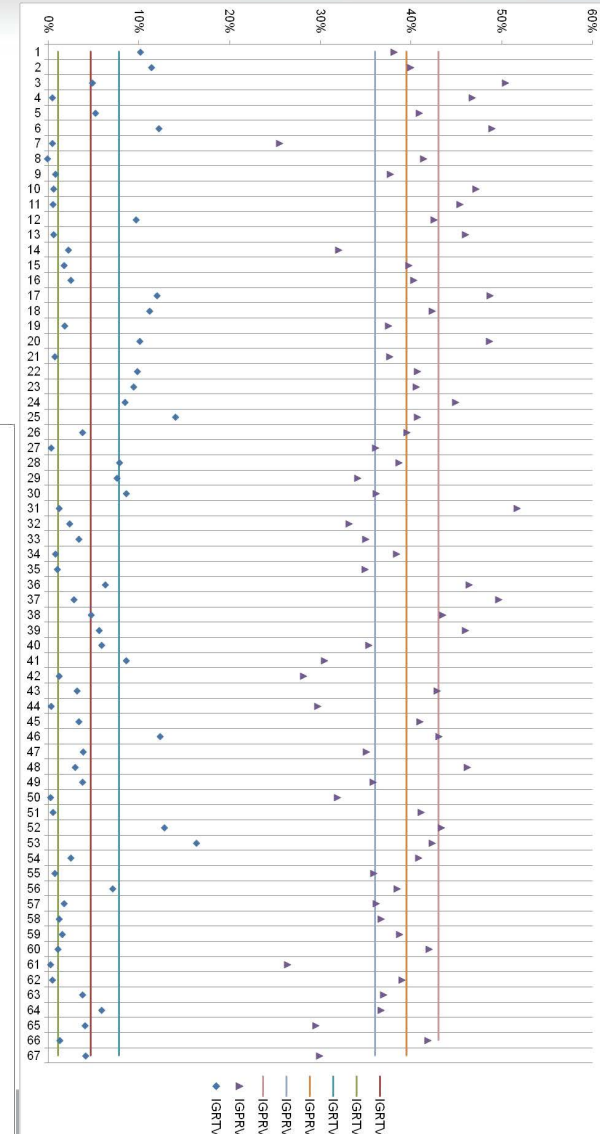
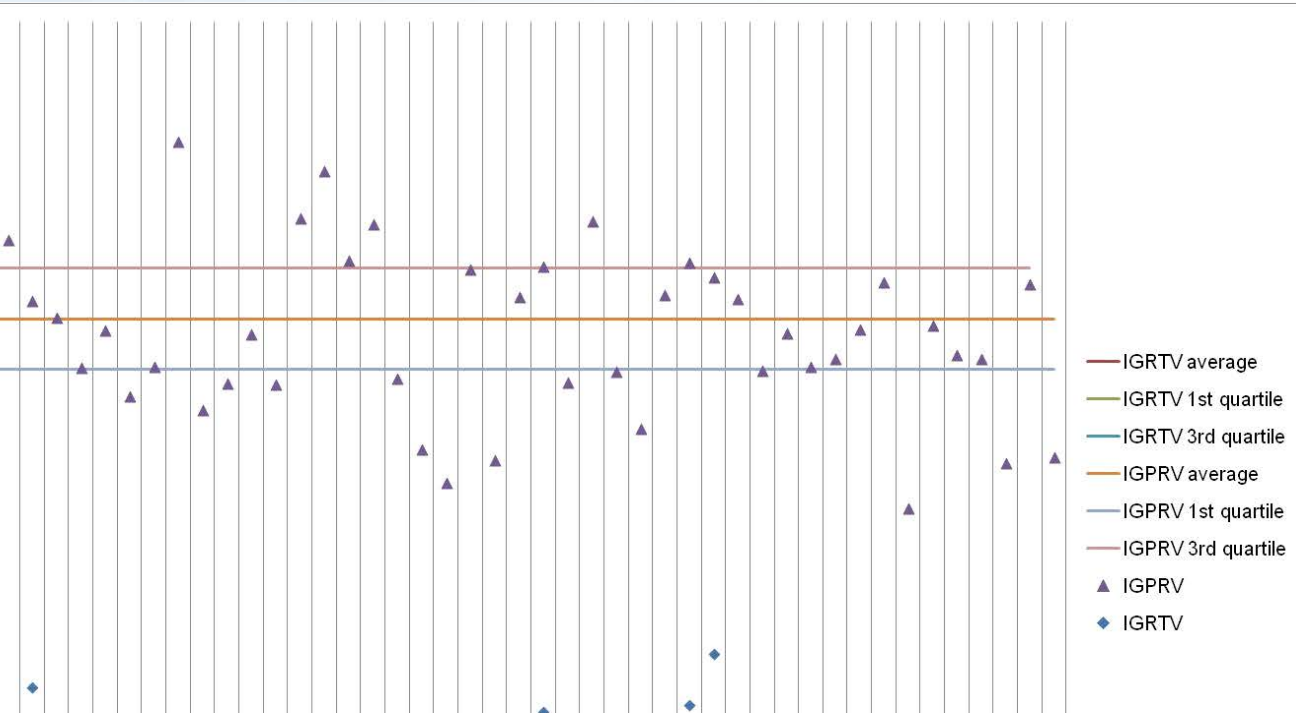




## • Suggestions:

### ❖ Global indicators

- ❖ Set leading and lagging indicators based on averaging to compare performance among installations





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**Thank you for your attention**

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