

10TH UNITED NATIONS WORKSHOP ON SPACE LAW

“CONTRIBUTION OF SPACE LAW AND POLICY TO SPACE GOVERNANCE AND SPACE SECURITY IN THE 21ST CENTURY”

5TH – 8TH SEPTEMBER, 2016, VIENNA

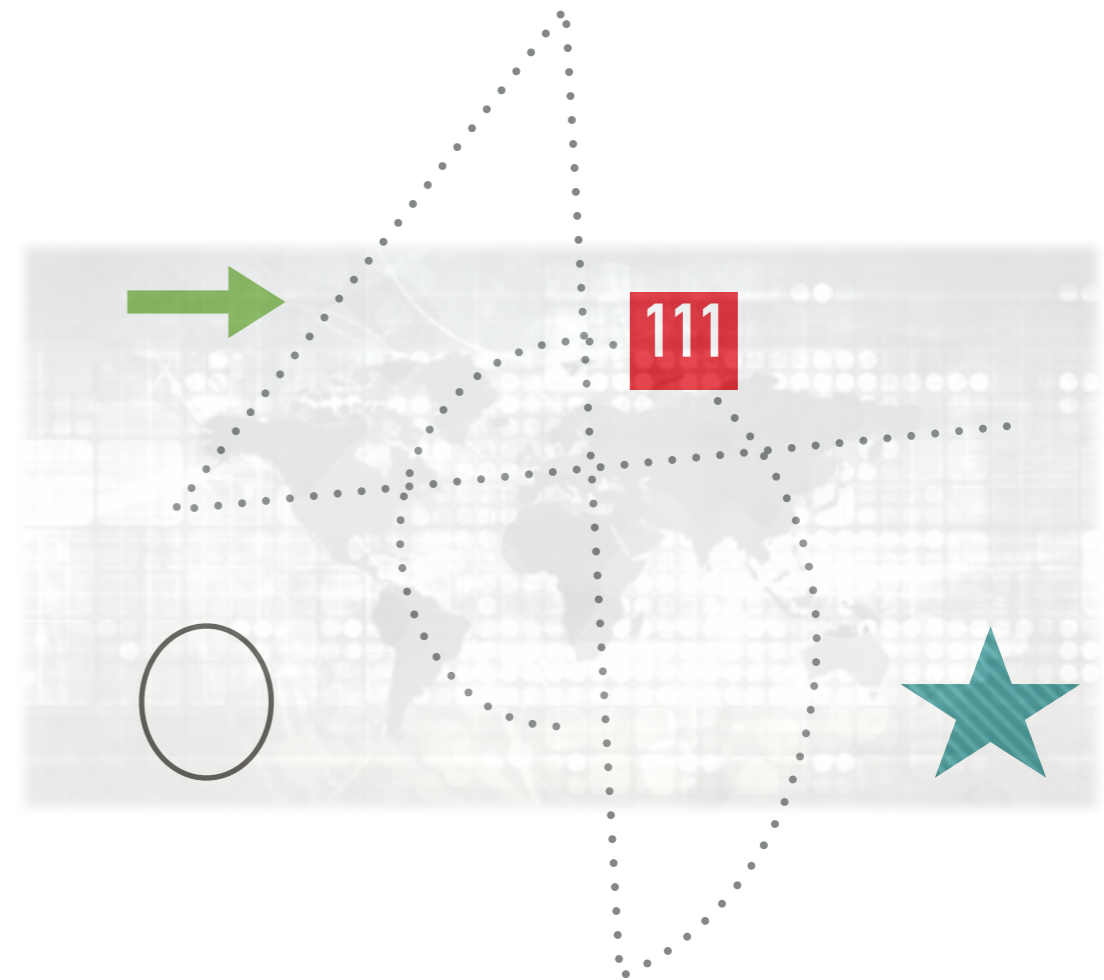
ROBERTO CARLOS BECERRA

**COOPERATION MODELS AND CAPACITY-
BUILDING FOR EMERGING NEW SPACE NATIONS**



OUTLINE

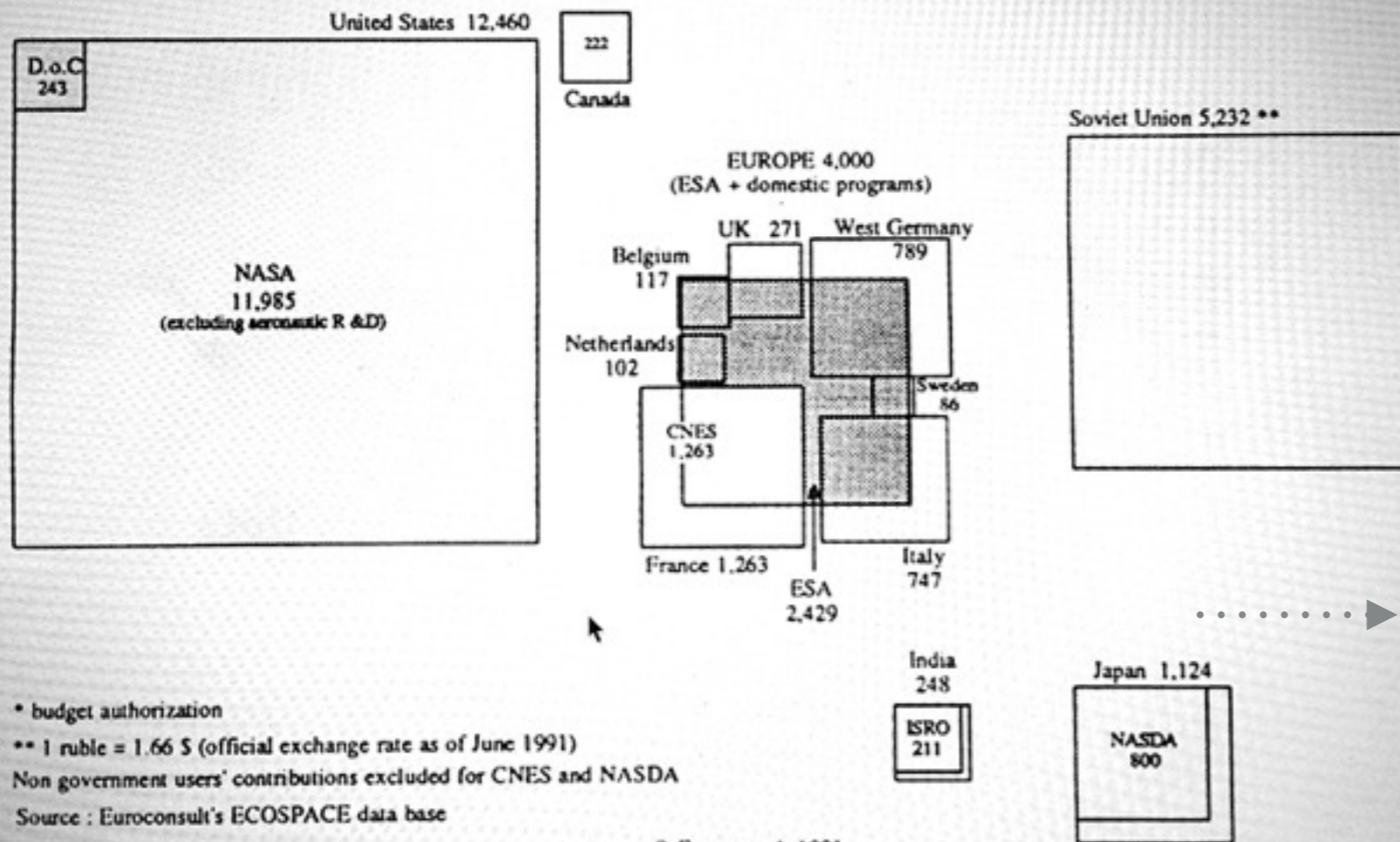
1. New emerging space nations
 - Background
 - Location of new emerging space nations
 - Development and interesting facts
2. International cooperation / Cooperation models
 - Identifying needs / Examples
 - Technological capacity in Latin America
3. International legal framework on outer space
 - Evolution of international space law
 - Role of the UNOOSA
4. Conclusions / Workshop objectives





BACKGROUND

1990 Civil Budgets for Space* Throughout the World (USD in millions)



* budget authorization
 ** 1 ruble = 1.66 \$ (official exchange rate as of June 1991)
 Non government users' contributions excluded for CNES and NASDA
 Source : Euroconsult's ECOSPACE data base

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TRADITIONAL SPACE ACTORS

USA- USSR

ESA/Europe (France, Germany, Uk, Italy, Belgium, Netherlands, Sweden)

India and Japan/China



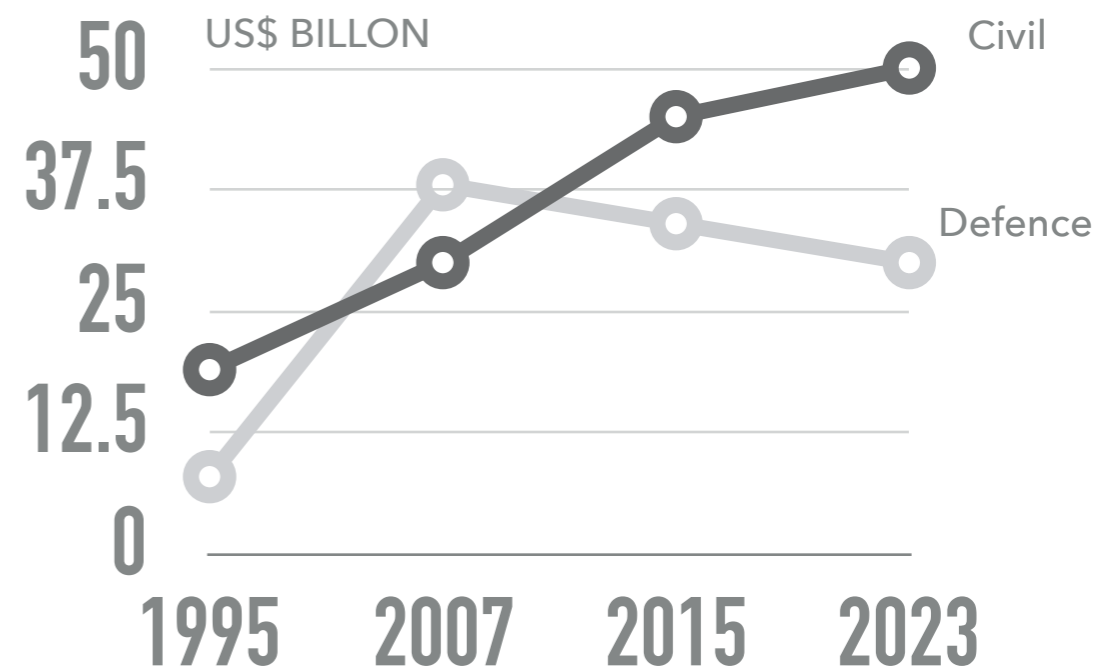
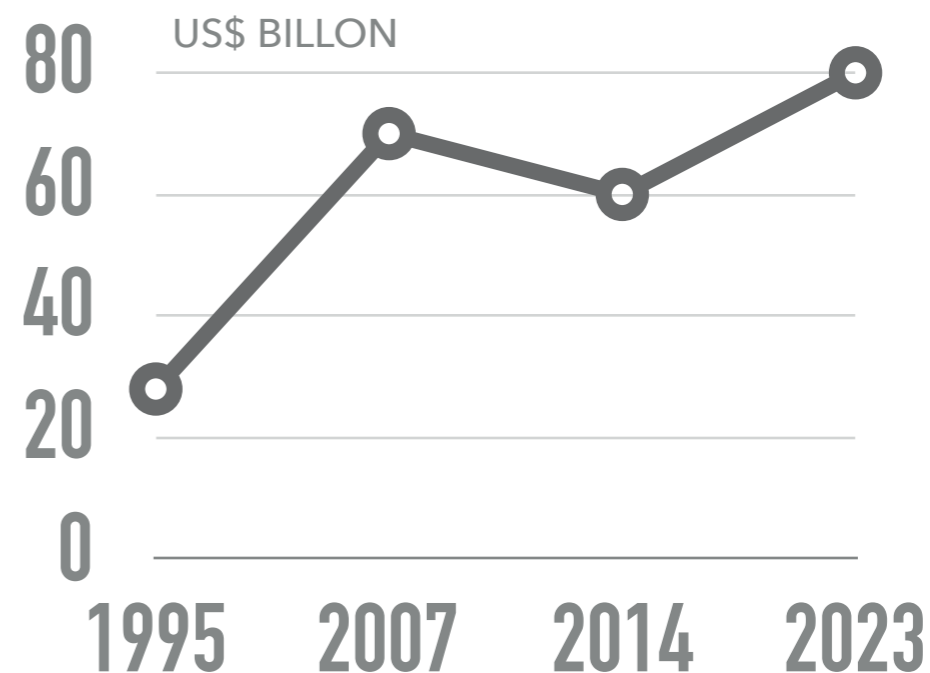
EMERGING

SPACE NATIONS



INTERESTING FACTS

- ▶ According to Euroconsult, national governments put 514 satellites into orbit between 2003 and 2012 and another 744 are expected to be launched by 2022.
- ▶ The financing of the global government for space activities is expected to amount to 77 billion USD BY 2022.
 - ▶ SMALLSATS 2016-2025 / 3.600 - \$22 billion, 76% increase in comparison with the period 2006-2015.





FIRST CONCLUSION

- ▶ There is an increasing number of emergent space nations which have understood the importance of the use of space technology as a tool for their social and productive development and for improving the quality of life of their people.
- ▶ The traditional space actors continue to play a significant role in the global arena due to the investment, development and predominance of the scientific and technologic knowledge.
- ▶ The investment on the governmental space sector will remain stable despite the global economic difficulties and a relapse in 2015. The involvement of emergent space actors will represent 30% of the global expenditure in the period 2016-2025.



INTERNATIONAL COOPERATION / MODELS COOPERATION

▶ Bilateral



▶ Multilateral





EMERGENT SPACE ACTORS / INTERNATIONAL COOPERATION





IDENTIFYING

NEEDS

Nuevo | Responder | Eliminar | Archivar | Correo no deseado | Limpiar

Re: 10* Taller Derecho Espacial

MR Monica Rodriguez
04-08-2016
Usted

VENEZUELA

Estimado Roberto, buenos días.

En primer lugar deseo manifestar la felicidad que me embarga al conocer que los frutos de tus arduos años de trabajo en la actividad espacial venezolana están siendo reconocidos a nivel internacional desde la UNOOSA. Que gran honor y placer el poder colaborar!!!

En cuanto a tu solicitud, puedo mencionar las siguientes áreas identificadas:

- 1) Sin duda alguna la formación de talento humano en materia de ciencia y tecnología espacial y de aquellas ciencias que complementan las actividades espaciales (ciencias básicas y sociales).
- 2) La interconexión entre los sistemas nacionales de ciencia, tecnología e innovación (todas aquellas instituciones públicas y privadas que se aboquen a estos objetivos).
- 3) La incorporación del aparato productivo nacional en los planes, programas y proyectos espaciales a efectos de generar procesos de innovación endógena.

Espero que este pequeño aporte pueda servir a la investigación que estas realizando y cualquier otra información que requieras, estamos a tu total disposición para colaborar desde esta, tu casa ABAE.

Un fuerte abrazo y que sigan los triunfos!!!

Mónica Rodríguez

Nuevo | Responder | Eliminar | Archivar | Correo no deseado | Limpiar

Respondiste el 05-08-2016 03:26 p.m.

Recordado Roberto Carlos, un gusto de saber de ti nuevamente!! Y que bueno que estaras participando en este Workshop de la ONU en Derecho Espacial.

Tu consulta: De acuerdo a su experiencia ¿podria identificar tres áreas necesarias para el desarrollo de capacidades espaciales en la región de América Latina? (solo mencionarlas).

Me gustaria responder usando los mismos 3 ejes estrategicos definidos en la Política Nacional Espacial de Chile para el periodo 2014-2020:

- 1.- Entorno para el Desarrollo Espacial
 - 1.1 Institucionalidad Espacial
 - 1.2 Promoción y Acceso a la Información
 - 1.3 Infraestructura y Aplicaciones Espaciales
- 2.- Innovación y Emprendimiento
 - 2.1 Investigación y Desarrollo
 - 2.2 Industria Espacial
 - 2.3 Posición Geográfica y Características Climáticas y Medioambientales
- 3.- Capital Humano
 - 3.1 Formación de Capital Humano Especializado
 - 3.2 Capacitación de usuarios
 - 3.3 Ciencia e Investigación

Aprovecho de consultarte: Sigues desempeñándote en la ABAE?

Un abrazo

de Chile

2001 2009

CHILE

Héctor Gutiérrez Méndez
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Re: 10* Taller Derecho Espacial

B BALAN ALEJANDRO GUTIÉRREZ HERRERA
vie 19-08
Usted

MEXICO

Hola Roberto, como siempre un gusto saber de ti !
Van algunas idea de lo que considero debería impulsarse en la materia:

1. Ciencia y tecnología espacial.
2. Economía y emprendimiento en la industria espacial.
 - o Cuentas nacionales de la industria espacial
 - o Modelos de transferencia de tecnología (universidad-empresa)
 - o Emprendimiento
3. Derecho y cooperación internacional en materia espacial.

La mejor de las suertes en tu ponencia!

AEM
AGENCIA ESPACIAL MEXICANA

SCT
SECRETARÍA DE COMUNICACIONES Y TRANSPORTES

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AEM_mx

Por favor no imprimas este mensaje si no es necesario y utiliza siempre que sea posible hojas recicladas.

Nuevo | Responder | Eliminar | Archivar | Correo no deseado | Limpiar

Respondiste el 08-08-2016 09:42 p.m.

Querido Roberto,

Un gusto como siempre saber de ti. Me alegro mucho de que tengas la oportunidad de asistir al Taller de Derecho Espacial. Seguirás enriqueciendo tus conocimientos sobre la materia.

En cuanto a la pregunta que me haces, y teniendo en cuenta las discusiones y conclusiones que se han acordado en reuniones que se han realizado a nivel regional, así como también lo expresado por los delegados de los países en los Estados Unidos (UNCOPUOS), entiendo que las tres áreas necesarias para el desarrollo de capacidades espaciales en la región son:

- Apoyar la enseñanza de la ciencia y tecnología espaciales a fin de que se conozcan los beneficios derivados de la divulgación y el conocimiento de dichos beneficios en todos los niveles de la sociedad.
- Impulsar políticas, programas y proyectos de cooperación en el área espacial, tanto a nivel regional como internacional.
- Fomentar el conocimiento de la normativa jurídica internacional que rige la exploración y utilización del espacio.

Espero que la respuesta se adecue a tus requerimientos. De lo contrario, espero tus comentarios.

Un abrazo,

Marta

URUGUAY

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NUEVOS MODELOS DE COOPERACIÓN

TRADITIONAL SCHEMES

- ▶ Acquisition of technological equipment and services (satellites, launching, space applications)
- ▶ Technical support

BUYING AND SELLING

NEW MODELS

- ▶ Knowledge
- ▶ Training of human talent
- ▶ Technical infrastructure
- ▶ I+D in space sciences
- ▶ Production of own technology

KNOWLEDGE ACQUISITION

CREATION OF CAPABILITIES



TECHNOLOGICAL CAPABILITIES IN LATIN AMERICA



* se excluyen los satélites experimentales con fines académicos

▶ Countries with orbiting satellites*

- Argentina, Brazil, Bolivia, Chile, Mexico, Venezuela

▶ AIT Centers

- Argentina, Brazil, Venezuela.



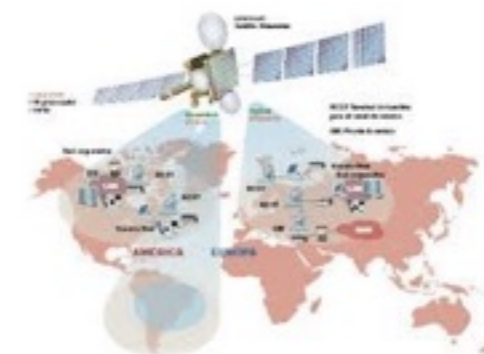
▶ Labs and research centers

▶ Human talent▶



▶ Use of space applications

- Telecommunications, Earth Observation
- World Satellite Navigation Systems
- Scientific applications





COOPERATION EXAMPLES

▶ Bilaterales

- ▶ Venezuela-Argentina / Venezuela-Bolivia
- ▶ Argentina Brasil (Satellite)

▶ Multilaterales

- ▶ COPUOS (Global)
- ▶ CEA (Regional-Latin America)
- ▶ ASPCO (Regional-Asia Pacific)

VENEZUELA



BOLIVIA



ARGENTINA





SECOND CONCLUSION

- ▶ International cooperation (bilateral-multilateral) plays a major role for the development of space activities and it is essential for emergent space countries.
- ▶ The new cooperation structures must be based on the mutual benefit. Industrialized countries must not longer see emergent space countries as mere clients and they must start to work as partners.
- ▶ Emergent space countries must believe more in their own capabilities and in their region (South-South Cooperation).
- ▶ The international legal framework and the juridical principles supporting the activities of the States in outer space are a key factor for international cooperation and for new cooperation models.



STILL MUCH TO BE DONE



INDUSTRIALIZED COUNTRIES





LEGAL FRAMEWORK

COUNTRY	SPACE AGREEMENTS OF UNITED NATIONS
ARGENTINA	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED • REGISTRATION CONVENTION (1975). RATIFIED
BOLIVIA	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). SIGNED • RESCUE AGREEMENT (1968). SIGNED
BRAZIL	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED • REGISTRATION CONVENTION (1975). RATIFIED
COLOMBIA	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). SIGNED • RESCUE AGREEMENT (1968). SIGNED • LIABILITY CONVENTION (1972). SIGNED
CHILE	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED • REGISTRATION CONVENTION (1975). RATIFIED • MOON AGREEMENT (1979). RATIFIED

COUNTRY	SPACE AGREEMENTS OF UNITED NATIONS
ECUADOR	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED
MEXICO	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED • REGISTRATION CONVENTION (1975). RATIFIED • MOON AGREEMENT (1979). RATIFIED
PERU	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). RATIFIED • LIABILITY CONVENTION (1972). RATIFIED • REGISTRATION CONVENTION (1975). RATIFIED • MOON AGREEMENT (1979). RATIFIED
VENEZUELA	<ul style="list-style-type: none"> • OUTER SPACE TREATY (1967). RATIFIED • RESCUE AGREEMENT (1968). SIGNED • LIABILITY CONVENTION (1972). RATIFIED

CASE STUDY EXAMPLE: VENEZUELA

LEGAL FRAMEWORK



CONSTITUTION OF THE BOLIVARIAN REPUBLIC OF VENEZUELA

- ▶ Article 11: "(...) The Republic has rights in outer space and in those areas which are or may be the Common Property of Humanity, on such terms, to such extent and subject to such conditions as may be determined by public international agreements and by the national legislation."





MARCO LEGAL VENEZUELA

▶ Founding Decree of the Bolivarian Agency of Space for Space Activities

▶ Bilateral agreements on space affairs

- China 2005
- India 2005
- Uruguay 2006
- Brazil 2008
- Argentina 2011
- Bolivia 2011
- Mexico 2015



Under negotiation

- Francia
- Rusia
- Ecuador
- Sudan

▶ Proposed National Space Laws



SECOND CONCLUSION: INTERNATIONAL LEGAL FRAMEWORK

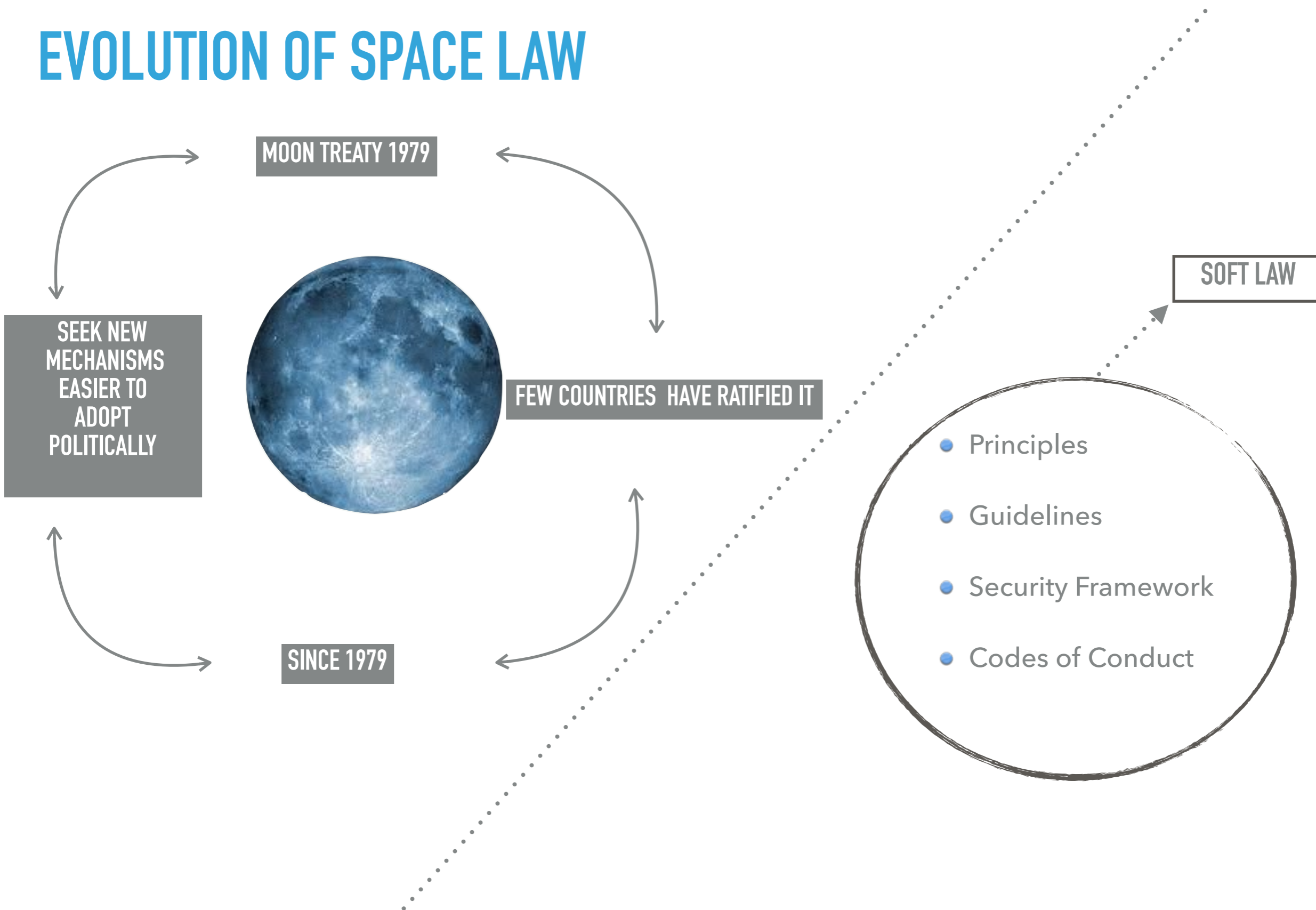


Public International Law vs Private Law

Commercialization of Outer Space vs Social Universalization of Space Applications



EVOLUTION OF SPACE LAW



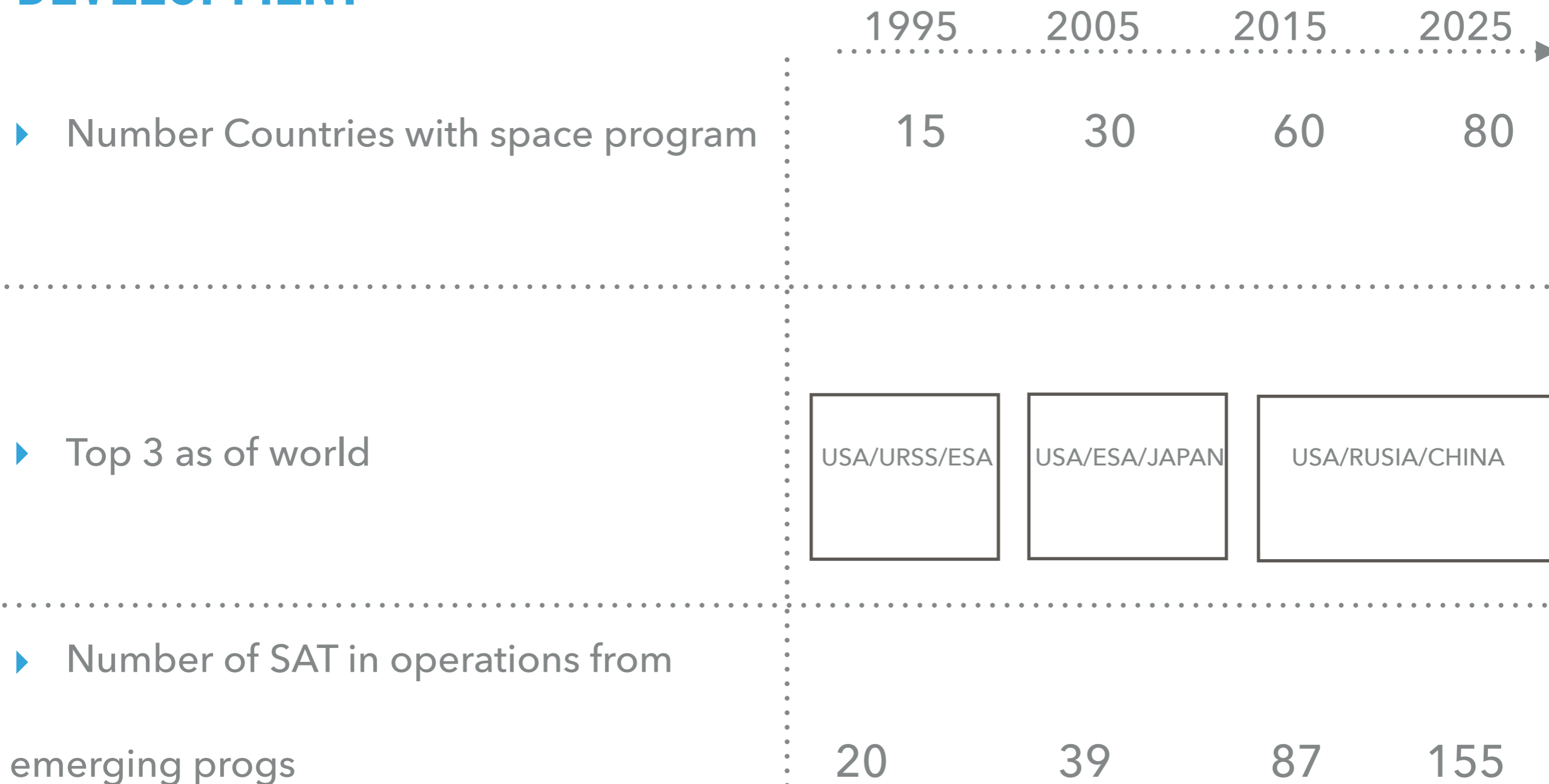


FINAL CONCLUSIONS

- ▶ Space nations have shown their commitment to respect international space law / in general, they have signed UN-Treaties on outer space.
- ▶ Bilateral space cooperation models must be more open for technology transfer and for the creation of scientific and technological capabilities for emergent countries.
- ▶ Strengthening of the following principles: Common Heritage of Humanity, fair access to outer space (earth orbits), avoiding an arms race in outer space, promotion of international cooperation (win-win), mitigation of space debris and preservation of the space environment and the biosphere, responsible and justified use of nuclear energy sources in outer space, among others. These principles are key to preserve a balance, as well as international peace and security.
- ▶ Promotion of the updating of the international legal framework of outer space.
- ▶ Prevalence of the PUBLIC INTERNATIONAL LAW.
- ▶ Role of the UNOOSA / strengthening multilateralism (codes of conduct).
- ▶ Long-term sustainability of space activities.



DEVELOPMENT





WORKSHOP OBJECTIVES

- ▶ To promote understanding, acceptance and implementation of the United Nations treaties and principles on outer space;
- ▶ To address space governance and the broader perspective of space security, including on norms of behaviour and space policy development;
- ▶ To consider space law and policy in the context of space economy, space society, space accessibility and space diplomacy;
- ▶ To study trends and challenges to the progressive development of space law; and
- ▶ To assess further needs for capacity-building, assistance and outreach in space law and policy.





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THANK YOU . . .

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