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TECHNICAL COOPERATION HIGHLIGHTS

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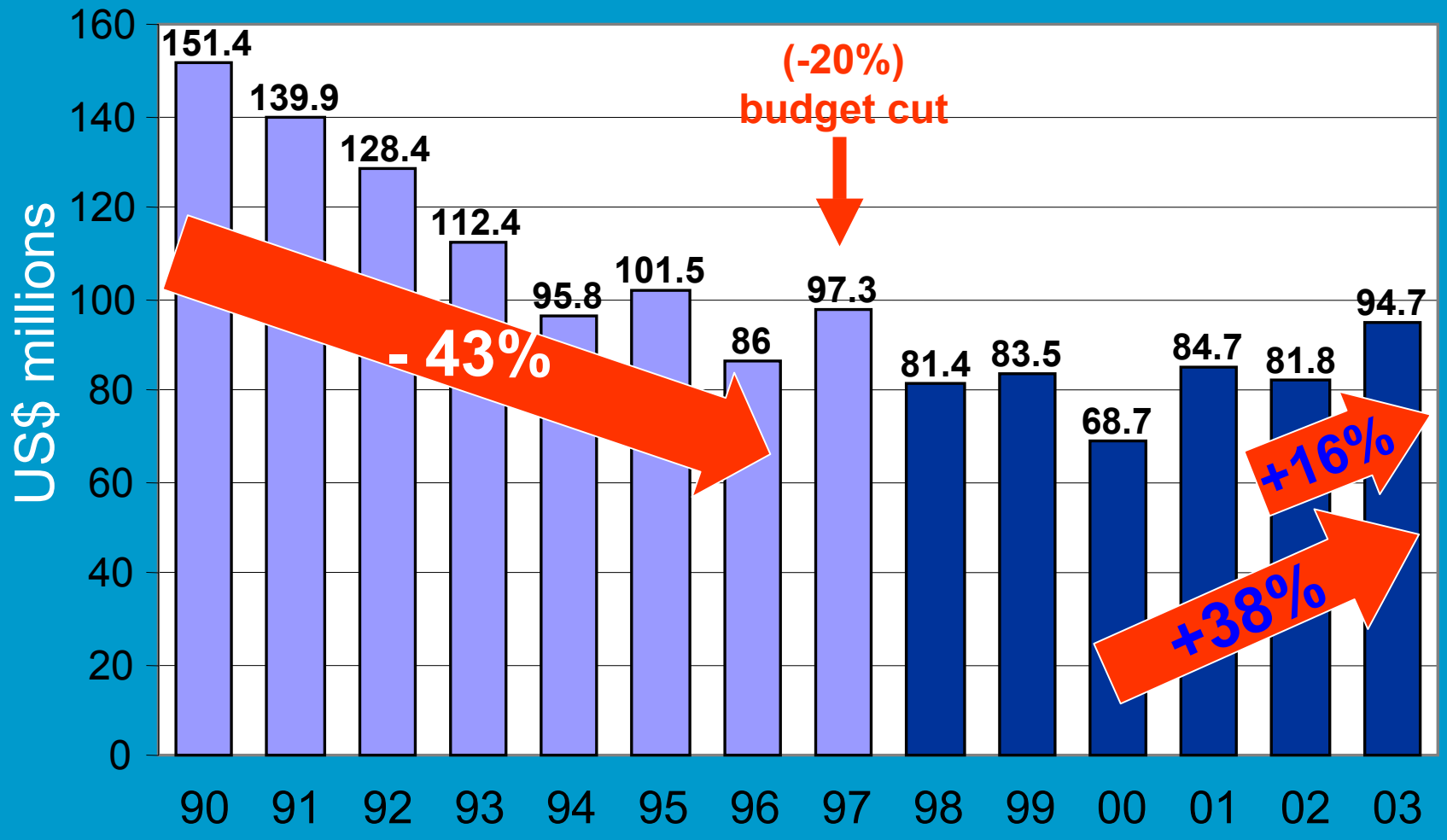
Technical Cooperation Delivery

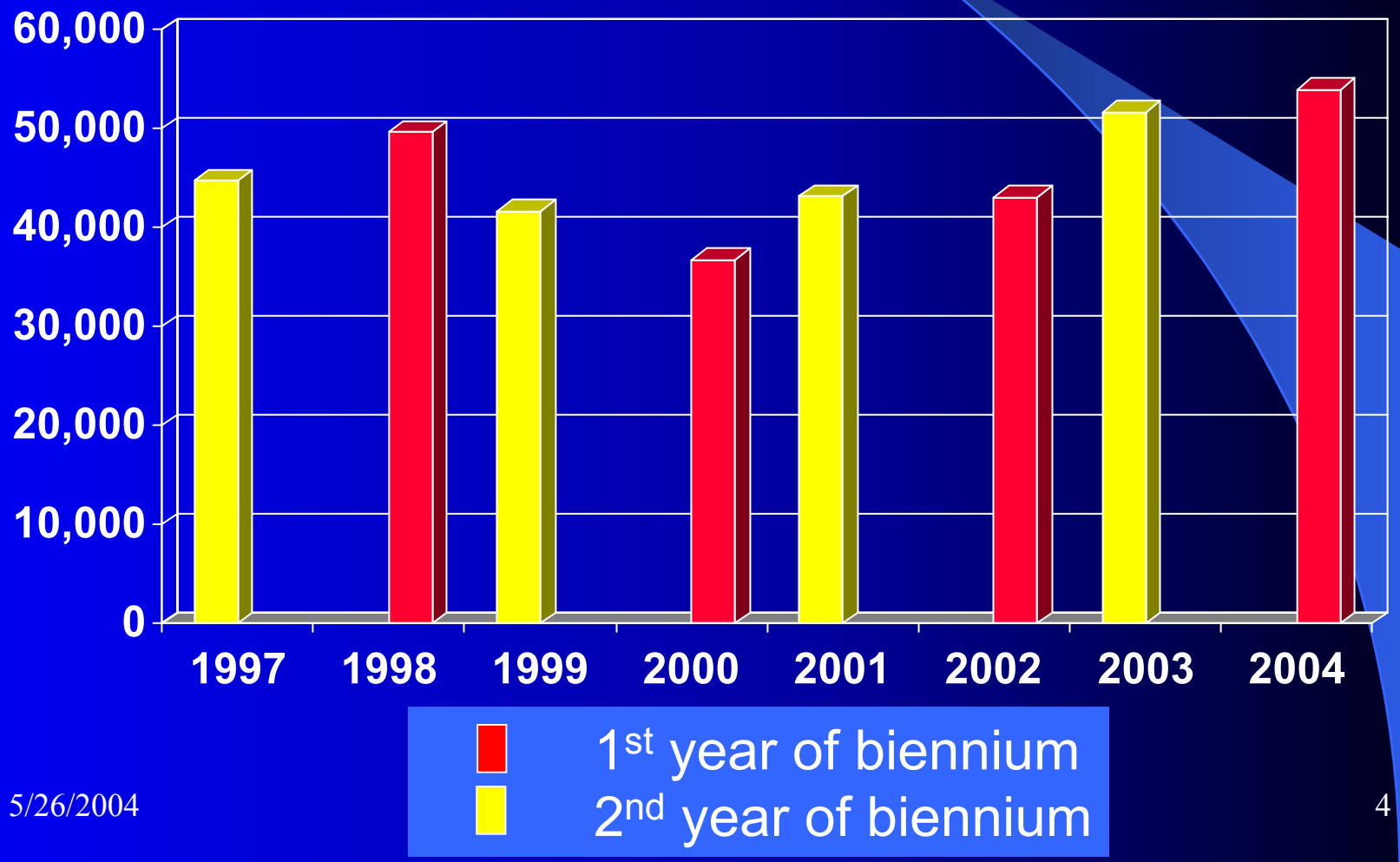
1990 – 2003 (millions of US dollars)



PTC Branch Business Plans

1. Sharpen strategic focus of and match human and financial resources
2. Provide BOTH detailed and comprehensive overview of PTC TC and global forum activities
3. Improve quality by involving line managers and branch staff in business planning
4. Increase TC delivery (+10 % after Plans' introduction in 2003)
5. Recognize individual staff and team achievements

TC-delivery (US$m) as of May



Thematic areas

- Poverty reduction through productive activities
- Advancing human security in post-crisis situations
- Trade capacity building
- Energy and environment

Poverty reduction through productive activities

- SME cluster development programme, with ILO and ESCWA
- Rural, women and youth entrepreneurship
- Africa Foreign Investment Survey (country)
- UNIDO/FAO community-based agro-related manufacturing activities

Advancing human security in post-crisis situations

1. Programme development for human security challenges

2. Community building for food security and poverty alleviation in Sudan

3. Agreement with FAO to cooperate in Iraq

Trade capacity building

1. Implementation of WTO-UNIDO MoU: seminars in Cambodia, Cuba, Bolivia
2. Bangladesh quality support programme: €10 million EU funding
3. Concept development on trade capacity building and development of cotton chain in Africa
4. Preparations for participation in UNCTAD XI
5. Productivity and quality programme in CEE/NIS
6. E-learning tool for total quality management
7. SPX-Chongqing, China inaugurated

Energy and environment (1)

- Climate Change:
  - Economic benefits for Nigerian industry
- Montreal Protocol:
  - UNIDO's 3-year B. Plan (2004-2006) US$130m
- POPs programme:
  - Direct access to GEF funding
  - NIP in 38 countries approved: US$19.4 million

Energy and environment (2)

- Cooperation with IFAD in land-degradation in Morocco
- International Waters: Guinea Current, Gulf of Mexico, Humboldt Current
- Joint initiatives: ITPO UK and NCPCs in Cuba and St. Petersburg

Energy and environment (3)

- Clean energy project for Caribbean SIDS completed
- South-South cooperation strengthened in mini-hydro and biomass gasification
- International Centre on Hydrogen Energy Technologies project started
- Global Biotechnology Forum

UNIDO's mandate

- Chapter 16 of Agenda 21 of the work programme adopted by the 1992 United Nations Conference on Environment and Development

  - Potential for biotechnology & sustainable development
  - Increasing food availability and renewable materials
  - Improving human health
  - Enhancing protection of the environment

- In December 2002, Res.57/237 of the UN GA

- IDB.26/Dec.8 adopted by the Industrial Development Board of UNIDO on the Global Biotechnology Forum

Context: biotechnology and industry

- Biopharmaceuticals +++
- Specialty chemicals +
- Colorants, food additives, cosmetics ++
- Vaccines +/++
- Edibles and commodity crops +/+++
- Bioremediation and bioleaching ++

(+ denotes relative importance)

Context:
Industrial Biotech: Market Estimates

Product	Annual market (US$ billion)
Environment	56 – 120
Industrial enzymes	1.2
Detergents	**0.7**
Starch	**0.16**
Textiles	**0.13**
Baking and beverages	**0.18**
Biocatalysts	0.05 - 0.1
Diagnostics	0.15 - 0.2
Biomaterials and bioenergy	< 0.01
Estimated total	**60 - 120**

Source: Ten Kate and Laird, 1999

Kava Kava
(*Piper methysticum*)

Herbal Dietary Supplement

- Kava Kava Extracts;
  - ✓Unique tropical herb
  - ✓Contains Kava lactones
  - ✓Mild herbal Sedative
  - ✓Eases tense muscles
  - ✓Relaxes the body
  - ✓Makes mind calm, sharp and clear
  - ✓Harmless antidepressant

Kava[1]: Value & Production Chain

Growers

$ 8 / kg

Wholesalers & exporters

$ 22-28 / kg

Extraction companies

$ 250-300 / kg

Manufacturing companies

$ 100-200 K / kg

Retailer outlets

$ 215-332 K / kg

1. *Piper methysticum*

Specific objectives

- Examine biotechnological opportunities and challenges
- Assess possible restrictions and suggest possible mechanisms to overcome them
- Explore means of capacity-building
- Explore contributions to health care and pharmaceuticals, relating to use and potential export markets
- Propose mechanisms for technology transfer

REGIONAL GBF MEETINGS

- **AFRICA:** Nairobi, Kenya: March 2003
- **LAC:** Brasilia, Brazil: July 2003
- **EUROPE:** Vienna, Austria: December 2003
- **ASIA PACIFIC:** Chengdu, China: December 2003

Global Biotechnology Forum

- Concepcion, Chile 2-5 March 2004
- Participation;
  - Participants, Delegations & speakers 481
  - Exhibitors 70
  - Scholarship holders 679
  - Organising Committee 60

    TOTAL 1,290

  (Does not include Press personalities)

Forum organization

1. **Ministerial discussion panels**
2. **Plenary sessions**

   Keynote lectures on the themes; bio industry, biotechnology and health care, agricultural biotechnology, bio safety, technology transfer, trade, financing bio industry, regulation and biotechnology
3. **Working groups**

   In-depth treatment of themes similar to those for the plenary sessions

FINAL STATEMENT

1. Creation of information network and databases
2. Formation of a multi-stakeholder forum
3. Mobilization of resources for capacity-building
4. Facilitation mechanisms for accessing to intellectual property

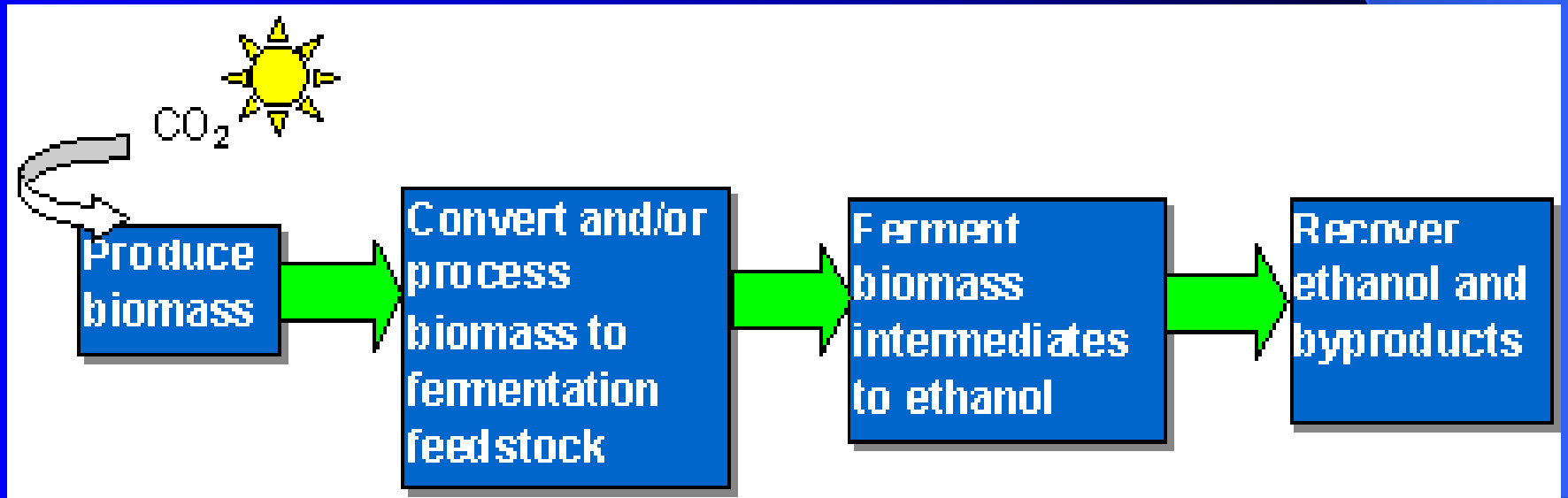
POST-GBF CHILE

1. Major recommendations for practical initiatives
2. Modalities for implementation of proposals
3. Funding mechanisms for possible initiatives
4. Coordination of the efforts and activities
5. Reporting proceedings to General Assembly

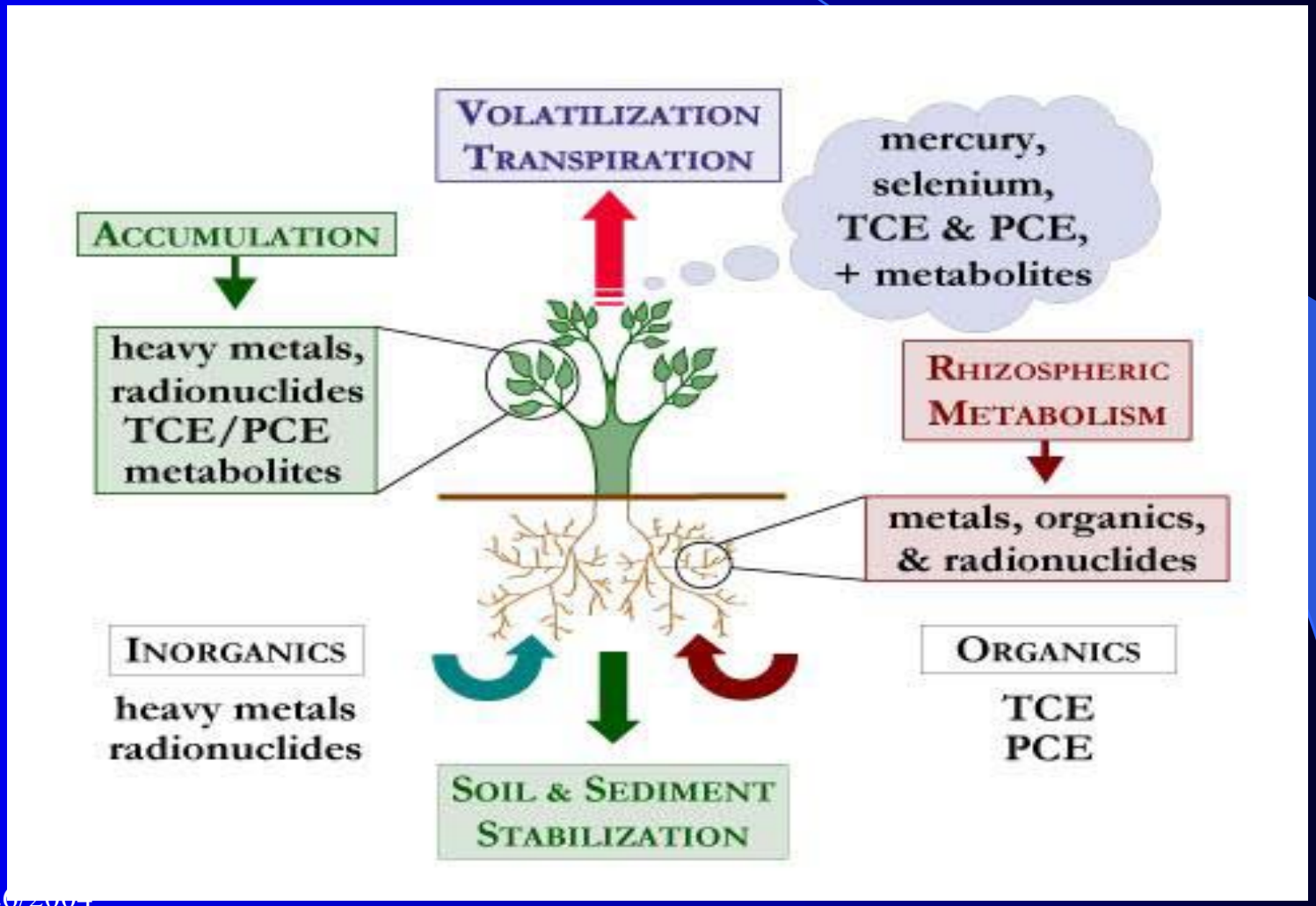
UNIDO follow-up activities

UNIDO programme areas	Examples of potential biotechnology applications
Energy	Biomass utilization
Environment, cleaner production	Biocatalysts, bio- and phyto-remediation
International conventions and GEF	Biological diversity, biosafety

Bioethanol


CO_2
Produce biomass
Convert and/or process biomass to fermentation feedstock
Ferment biomass intermediates to ethanol
Recover ethanol and byproducts

Phyto-remediation

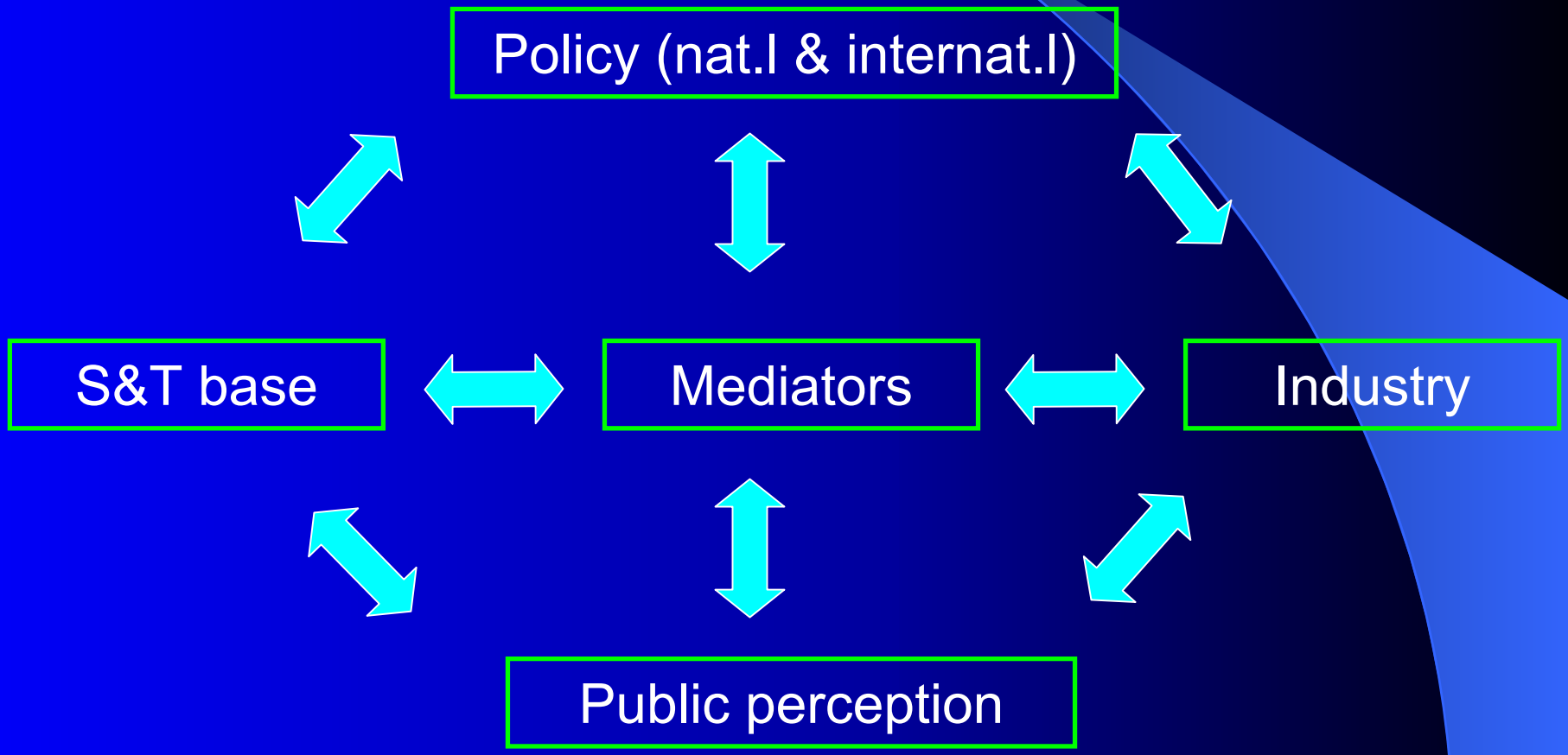


Biosafety

All scientific processes contain uncertainty:

1. **Management of potential biotechnology-related risks**
2. **Precautionary approaches in context of commercial and trade pressures**
3. **Capacity building for calculated risk assessment**
4. **Role of science and factors in determining public acceptability of technology**

Biotechnology innovation



Thank you for your kind Attention