



# Mineral Resources Reporting and Valuation in Latin America: The CRIRSCO Standard

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*Committee for Mineral Reserves  
International Reporting Standards*

Latin América

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# AGENDA

- ❑ WHY TO REPORT MINERAL RESERVES
- ❑ THE INDUSTRY GO FOR STANDARDS
- ❑ BETTER DATA INCREASES THE MINERAL RESOURCE VALUE
- ❑ CRIRSCO NATIONAL REPRESENTATIVE ORGANIZATIONS
- ❑ CRIRSCO BENEFITS

# WHY TO REPORT MINERAL RESOURCES

Countries and Regions aim to Grow, Assure Minerals Supplies and deliver Opportunities, in Compliance with current Environmental and Social License Legislations.

Governments aim to increase Taxes, Other Mine Contributions and to Anticipate Growth and Royalties Payments

Communities aim to Assure those Opportunities and to be Inside-track of the Risks, and Potential Benefits.

# WHY TO REPORT MINERAL RESOURCES

However, mineral resource data to respond with Confidence, and without Ambiguity is not easy to provide with Credibility.

Data change over time according with the exploration and development phases. Uncertainties need time to be solved.

Data capture and validation is detrimental to estimate the progressive increase in value of a mineral asset under a solid and consistent basis. They are also detrimental to finance mine development.

# THE INDUSTRY GO FOR STANDARDS

The minerals and mining industries have been very concerned with the way mine assets are reported for public information.

- First, it was Australia to establish a National Representative Organization (NRO) and issue the JORC standard; then Canada issued the CIM standards under the same principles, criteria, and protocols. The United States, South Africa, and the United Kingdom followed.

# THE INDUSTRY GO FOR STANDARDS

In 2006 these countries launched CRIRSCO, as the *Committee for Mineral Reserves International Reporting Standards*, and issued the CRIRSCO Template under the principles of transparency, materiality, and competence. CRIRSCO set up the concept of a Qualified Person or Competent Person as a professional with the competence to inform and report mineral resources and reserves for public information. CRIRSCO is a strategic partner of the *International Council on Mining and Metal*.

The CRIRSCO standards not only watch over the amount of data but also over the quality of the information, the back-up, the technical support of every mineral resource parameter.

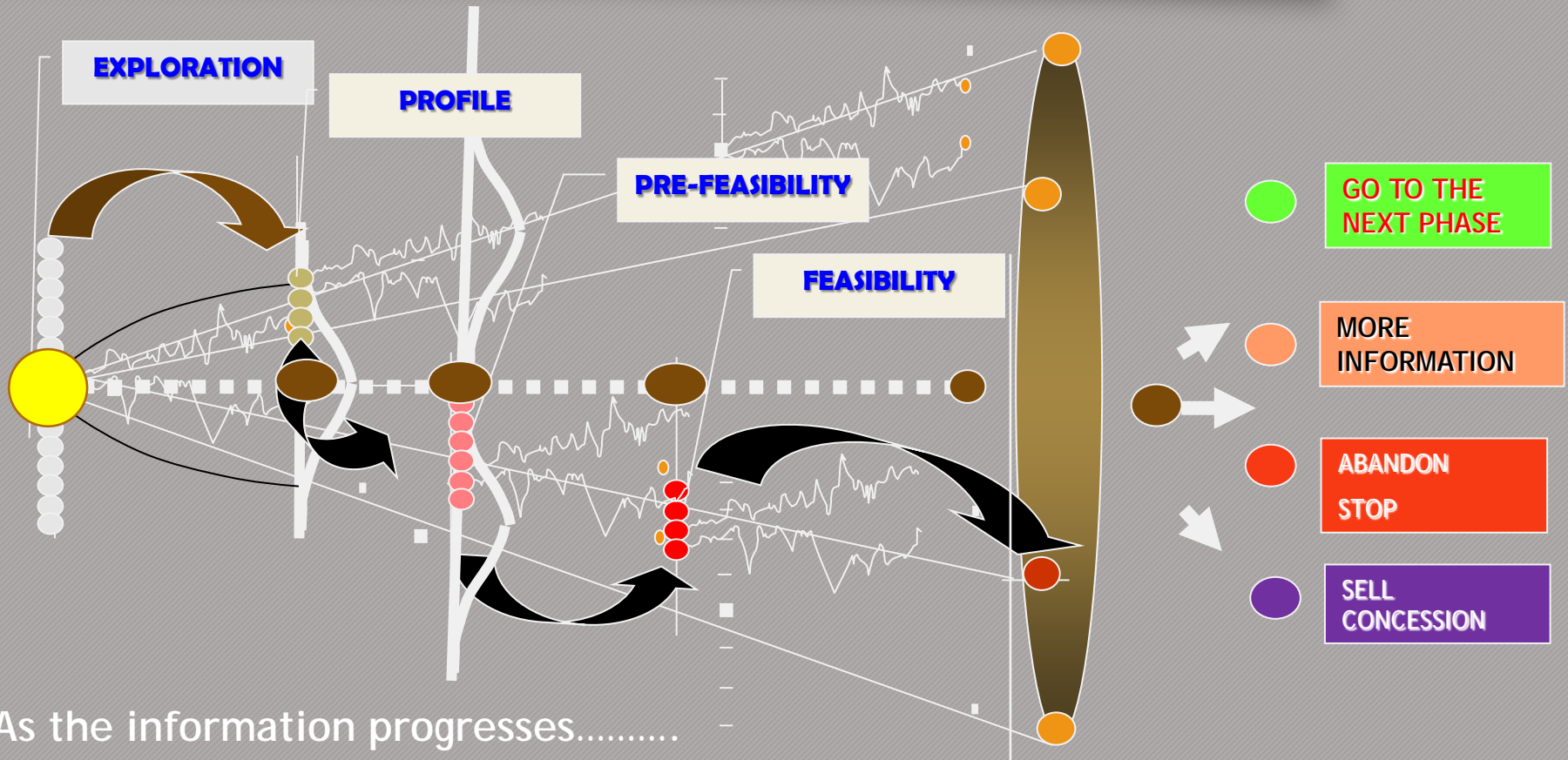
# THE INDUSTRY GO FOR STANDARDS

Chile and Brazil are members of CRIRSCO.  
Colombia and Argentina are working to become members.  
Ecuador use a CRIRSCO type standard for auditing purposes

CRIRSCO activities in Latino America have the full support of governments and mining companies. In Chile, for instance, several regulations applying to mining companies reporting new findings have been proposals issued by the Chilean NRO.

Better reporting on mine exploration and development increases reliability of the mining industry before the financial industry and before local authorities.

# BETTER DATA INCREASES THE RESOURCE VALUE



As the information progresses.....  
mineral resources increase in value triggering  
the company and national's growth

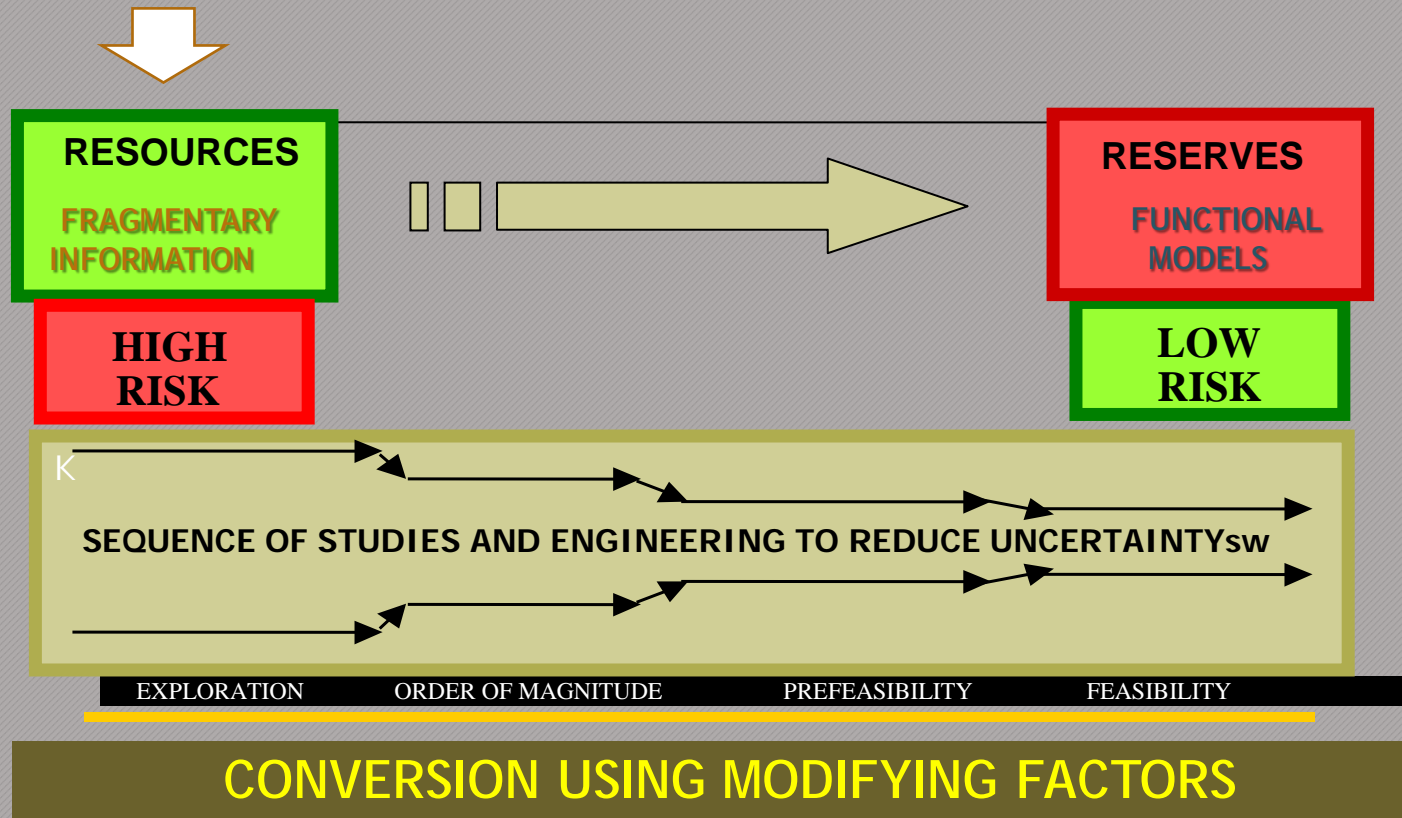


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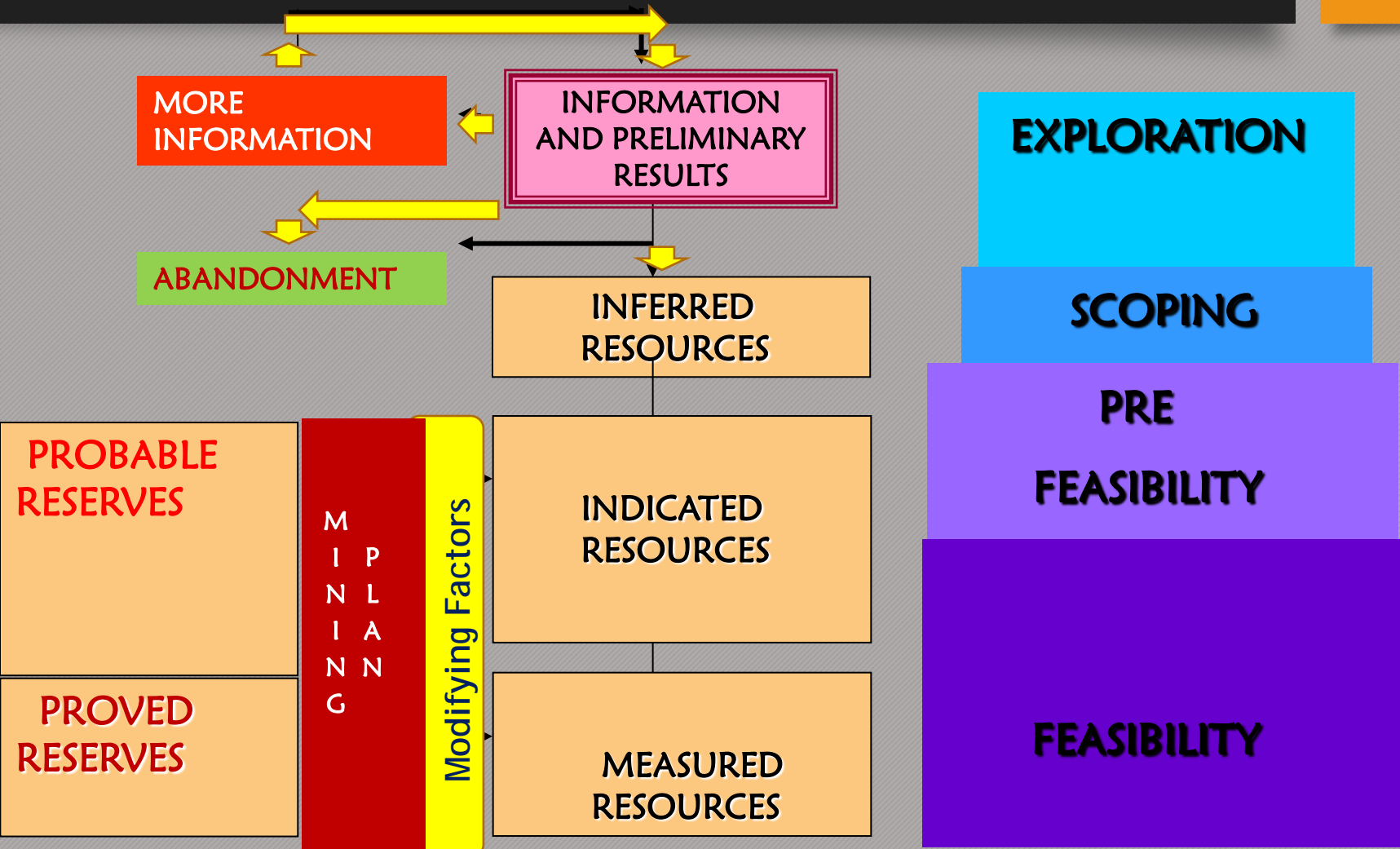
**Item 1:** Summary **Item 2:** Introduction **Item 3:** Support to other experts **Item 4:** Description and Location of the Property **Item 5:** Accessibility, Weather, Local Resources, Infrastructure and Physiology **Item 6:** History **Item 7:** Geological Location and Mineralization **Item 8:** Type of Deposit **Item 9:** Exploration **Item 10:** Drilling and Reconnaissance **Item 11:** Preparation, Analysis and Security of the Samples **Item 12:** Verification of Data **Item 13:** Mineral Processing and Metallurgical Tests **Item 14:** Estimation of Mineral Resources **Item 15:** Estimation of Mineral Reserves **Item 16:** Exploitation Method **Item 17:** Recovery Methods **Item 18:** Project Infrastructure **Item 19:** Market Study and Contract **Item 20:** Environmental Studies, Permits and Social License **Item 21:** Capital and Operational Costs **Item 22:** Economic Analysis **Item 23:** Adjacent Properties **Item 24:** Data and Additional Information **Item 25:** Conclusions **Item 26:** Suggestions **Item 27:** References

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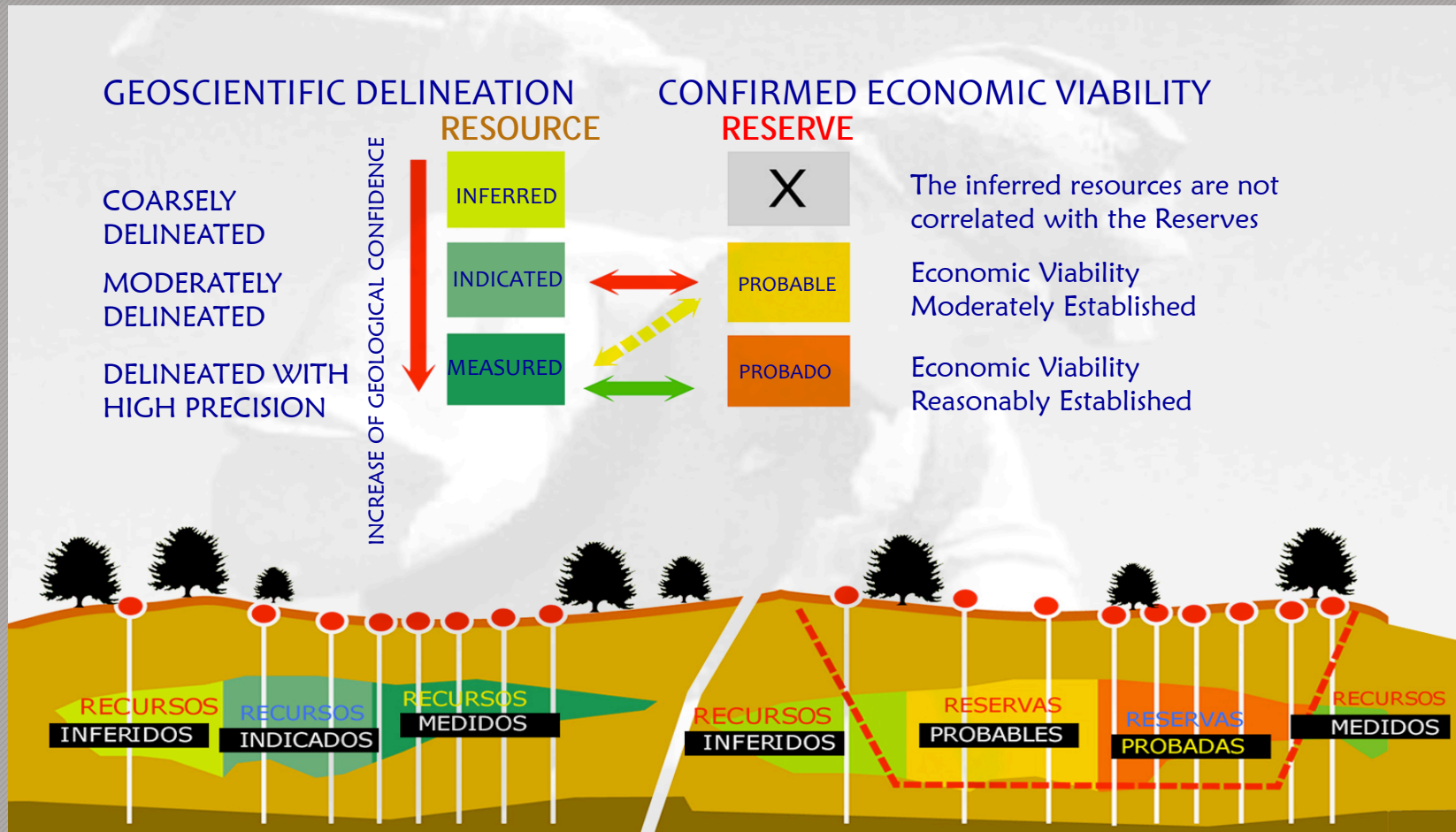
## EXPLORATION RESULTS



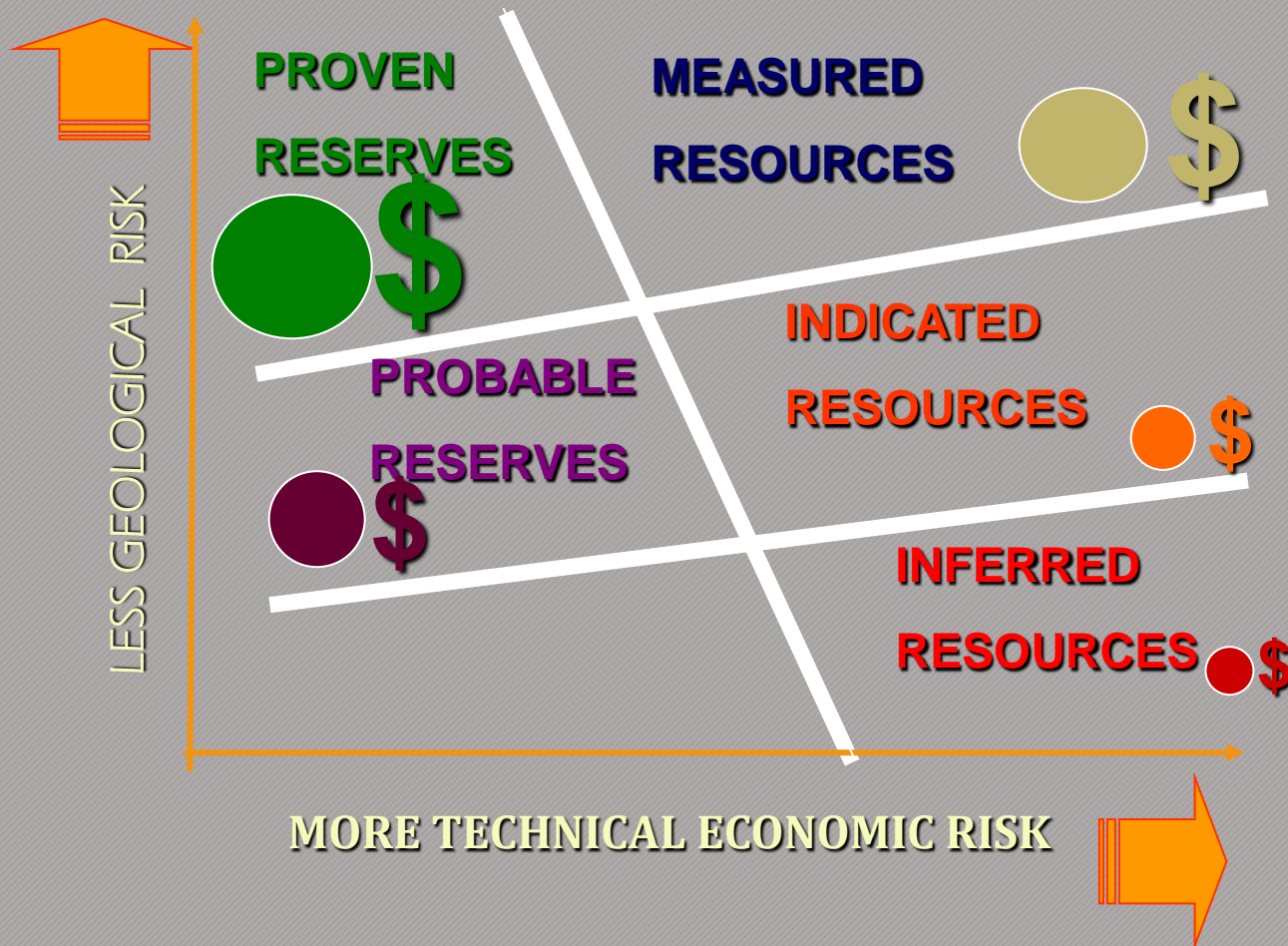
# BETTER DATA INCREASES THE RESOURCE VALUE



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# CRIRSCO NATIONAL REPRESENTATIVE ORGANIZATIONS

## AUSTRALASIA

National Committee Joint Ore Reserves Committee (JORC)  
Member organizations Australasian Institute of Mining & Metallurgy (AusIMM)  
Australian Institute of Geoscientists (AIG) Minerals Council of Australia (MCA)  
Representation from Australian Securities Exchange (ASX) Financial Services  
Institute of Australia (FinSIA)

## BRAZIL

National Committee Brazilian Commission for Resources and Reserves (CBRR)  
Member organizations Brazilian Association of Mineral Exploration Companies  
(ABPM) Agency for Technological Development of the Brazilian Mineral  
Industry (ADIMB) Brazilian Agency for Mineral Technology, Research and  
Development (IBRAM)

## CANADA

National Committee Canadian Institute of Mining, Metallurgy and Petroleum  
(CIM)  
Member organisation Canadian Institute of Mining, Metallurgy and Petroleum  
(CIM)

# CRIRSCO NATIONAL REPRESENTATIVE ORGANIZATIONS

## EEUU

National Committee Society for Mining, Metallurgy and Exploration (SME)  
Member organisation Society for Mining, Metallurgy and Exploration (SME)

## KAZAKHSTAN

National Reporting Organisation for Kazakhstan is the KAZRC Association  
The Recognised Professional Organisation for Competent Persons preparing  
Public Reports will be PONEN.

## MONGOLIA

National Committee Mongolian Professional Institute for Geosciences and  
Mining  
Member organization Mongolian Professional Institute for Geosciences and  
Mining

# CRIRSCO NATIONAL REPRESENTATIVE ORGANIZATIONS

## SUD AFRICA

National Committee South African Mineral Resource Committee (SAMREC)  
Member organizations Southern African Institute of Mining and Metallurgy (SAIMM) South African Council for Natural Scientific Professions (SACNASP) Geological Society of South Africa (GSSA) Geostatistical Association of South Africa (GASA) South African Council for Professional Land Surveyors and Technical Surveyors (PLATO) Association of Law Societies of South Africa General Council of the BAR of South Africa Department of Minerals and Energy Johannesburg Stock Exchange (JSE) Council for Geoscience The Banking Association of South Africa The Chamber of Mines of South Africa (CoM)

## EUROPEAN UNION

National Committee Pan European Resources and Reserves Reporting Committee (PERC)  
Member organizations European Federation of Geologists (EFG) The Geological Society of London Institute of Materials, Minerals and Mining (IMMM) Institute of Geologists of Ireland (IGI)



# CRIRSCO STANDARD AND ITS BENEFITS

## CRIRSCO FOR THE COMPANIES

- ❑ ASSIST THE MINING COMPANIES IN ASSURING WITH TRANSPARENCY THE POTENTIAL OF THEIR RESOURCES / RESERVES.
- ❑ ALLOW COMPANIES TO RISE CAPITAL IN STOCK HOUSES AND OTHER FINANCIAL INSTITUTIONS BASED ON A MUCH BETTER REALIABILITY OF THEIR ASSETS.
- ❑ SUPPORT BETTER THE CORPORATE BOARDS BEFORE REQUIREMENTS DEMANDED BY GOVERNMENT INSTITUTIONS.

# CRIRSCO STANDARD AND ITS BENEFITS

## CRIRSCO FOR THE AUTHORITIES

- ❑ ASSIST THE AUTHORITIES TO MANAGE BETTER THE WHOLE MINING SECTOR IN ITS INTEGRITY BASED ON A MUCH BETTER INFORMATION ISSUED BY QUALIFIED PROFESSIONALS.
- ❑ ALLOW AUTHORITIES TO DEVELOP BETTER PUBLIC POLICIES FOR THE MINING SECTOR BASED ON RELIABLE INFORMATION.
- ❑ SUPPORT THE AUTHORITIES IN THE FORMULATION AND IMPLEMENTATION OF MINING POLICIES UNDER SUSTAINABLE CRITERIA.

# CRIRSCO STANDARD AND ITS BENEFITS

## CRIRSCO FOR THE PROFESSIONALS

- ❑ ALLOW PROFESSIONALS TO BELONG TO A mining PROFESSIONAL NICHE WITH INTERNATIONAL RECOGNITION
- ❑ ALLOW PROFESSIONALS TO INCREASE THE KNOWLEDGE AND THE GOOD PRACTICES IN THE PREPARATION OF REPORTS ON EXPLORATION RESULTS, AND MINERAL RESOURCES, RESERVES, AND PROJECTS.
- ❑ ALLOW PROFESSIONALS TO INCREASE THEIR ROLE IN THEIR COUNTRY AND INDUSTRY DUE TO THE RESPONSIBILITY ASSIGNED IN THE DEVELOPMENT OF MINING PROJECTS.