Food and Agriculture Organization of the United Nations

21-23 November 2023

GLOSOLAN PT 2024

Nopmanee Suvannang

GLOSOLAN steering committee

ITPS member

Christian Hartmann - IRD

GLOSOLAN steering committee

Michael Watts - BGS

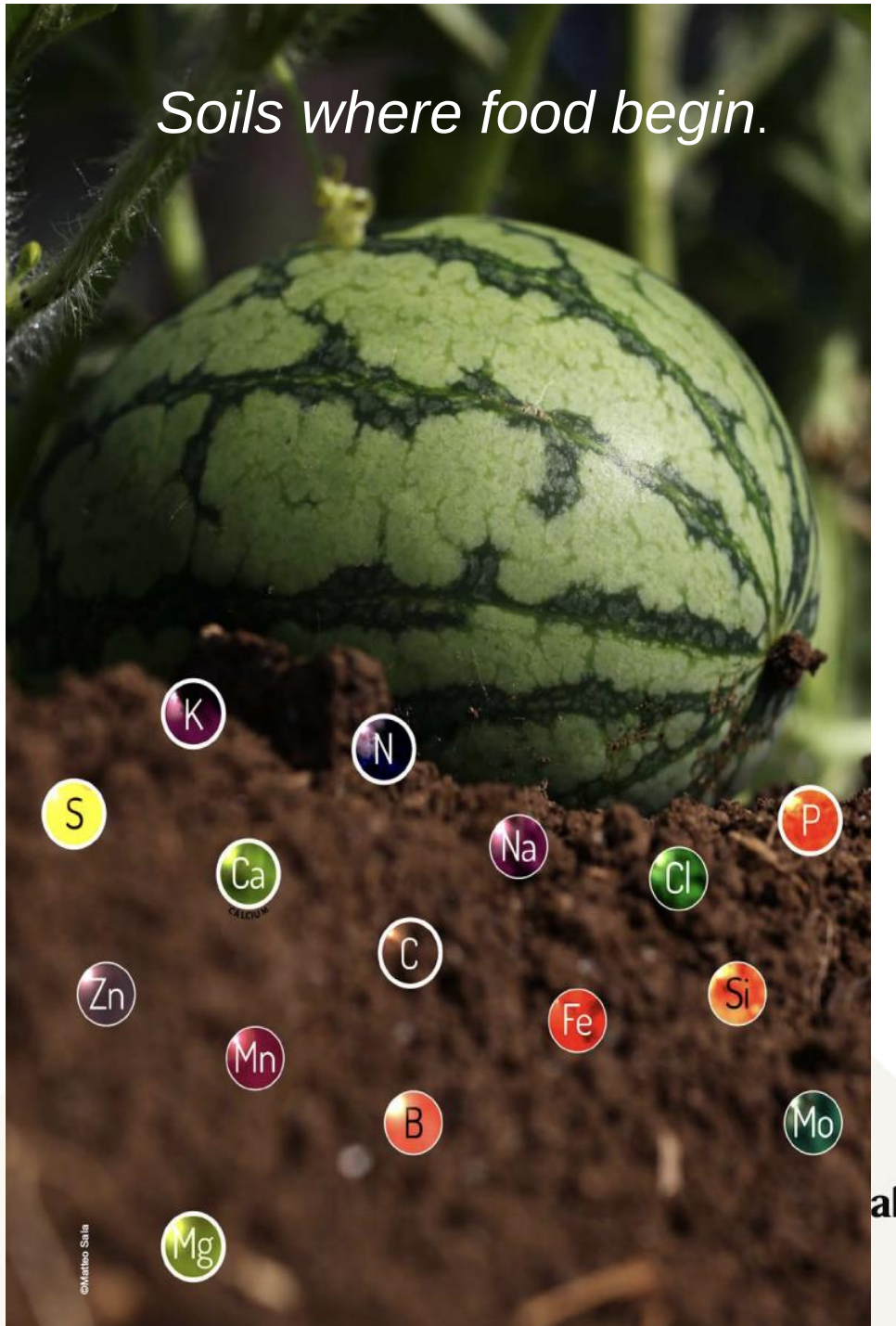
GLOSOLAN technical committee

7th Meeting of the **Global Soil Laboratory Network** (GLOSOLAN)

GLOSOLAN

GLOBAL SOIL LABORATORY NETWORK

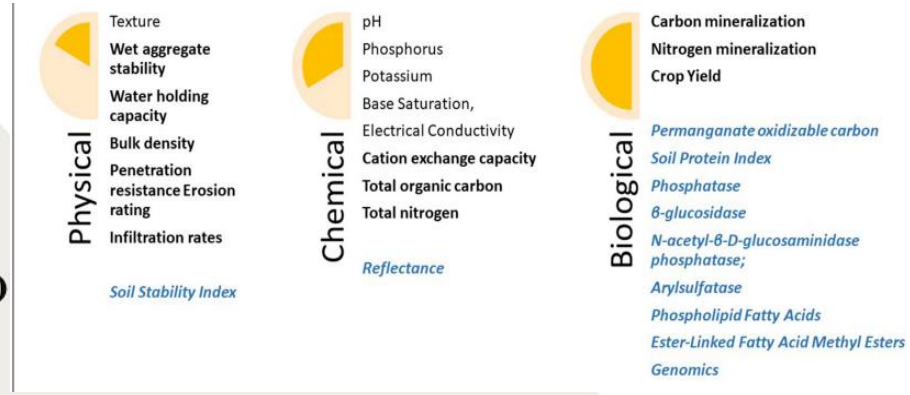
GLOBAL SOIL PARTNERSHIP



Important of Soils

- Soil is a vital resource, it provides us with nutritious food and other products as well as with clean water and flourishing habitats for biodiversity
- agricultural soils, play a crucial role in food security and climate change.
- Soils are key to tackling climate change as it captures and stores vast amounts of carbon.
- supports and drives all of life on earth.

al Soil Laboratory Network (GLO



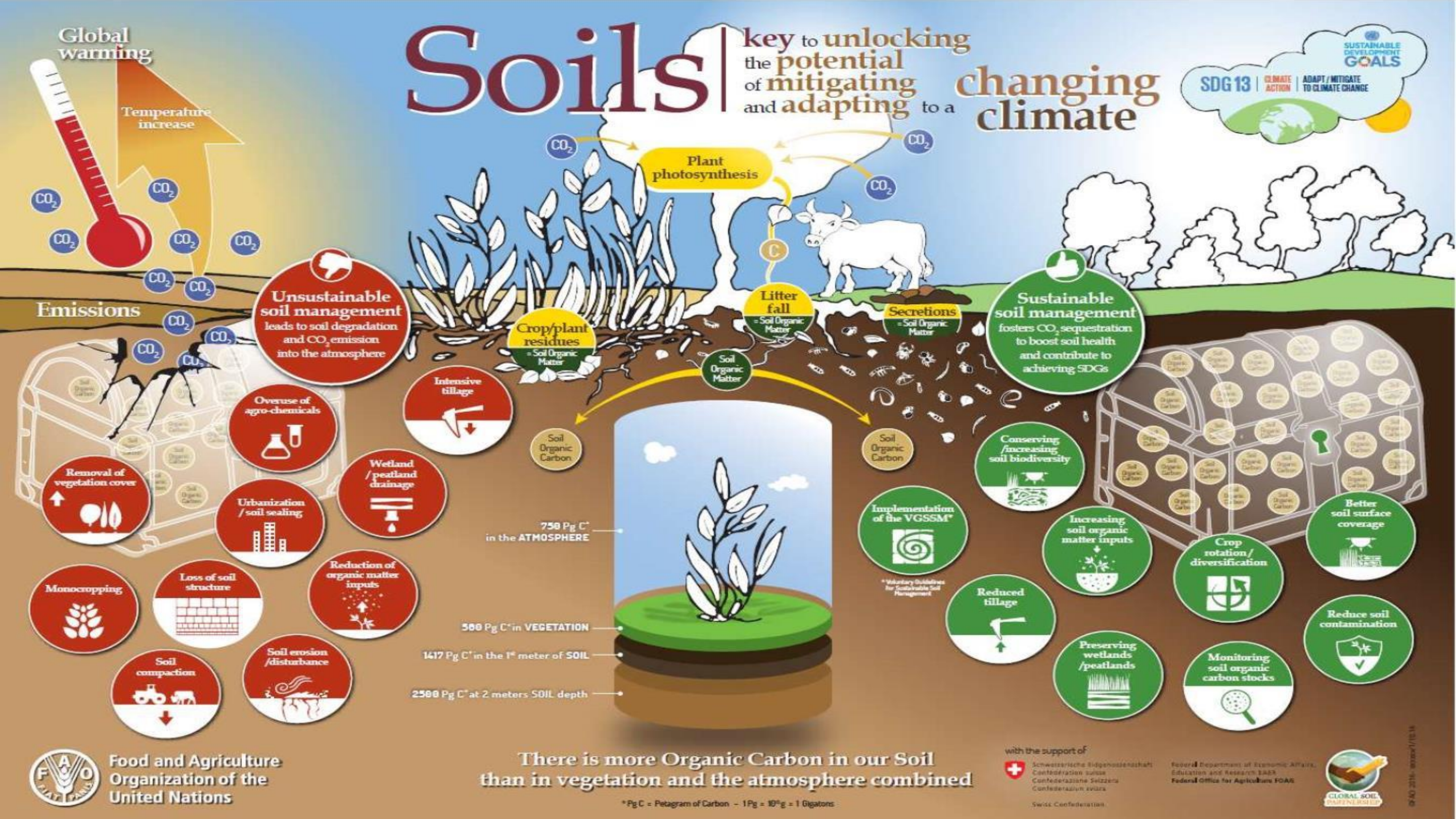

Soils
key to unlocking the potential of mitigating and adapting to a changing climate
SUSTAINABLE DEVELOPMENT GOALS
SDG 13 | CLIMATE ACTION | ADAPT/MITIGATE TO CLIMATE CHANGE
Global warming
Temperature increase
CO_2
Emissions
Plant photosynthesis
C
Litter fall
= Soil Organic Matter
Secretions
= Soil Organic Matter
Crop/plant residues
= Soil Organic Matter
Soil Organic Matter
Soil Organic Carbon
Unsustainable soil management
leads to soil degradation and CO_2 emission into the atmosphere
Intensive tillage
Overuse of agro-chemicals
Removal of vegetation cover
Wetland /peatland drainage
Urbanization / soil sealing
Monocropping
Loss of soil structure
Reduction of organic matter inputs
Soil compaction
Soil erosion /disturbance
Sustainable soil management
fosters CO_2 sequestration to boost soil health and contribute to achieving SDGs
Conserving /increasing soil biodiversity
Implementation of the VGSSM*
* Voluntary Guidelines for Sustainable Soil Management
Increasing soil organic matter inputs
Better soil surface coverage
Crop rotation/ diversification
Reduced tillage
Reduce soil contamination
Preserving wetlands /peatlands
Monitoring soil organic carbon stocks
750 Pg C* in the ATMOSPHERE
560 Pg C* in VEGETATION
1417 Pg C* in the 1st meter of SOIL
2500 Pg C* at 2 meters SOIL depth
There is more Organic Carbon in our Soil than in vegetation and the atmosphere combined
* Pg C = Petagram of Carbon – 1 Pg = 10^{15} g = 1 Gigatons
Food and Agriculture Organization of the United Nations
with the support of
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Federal Department of Economic Affairs, Education and Research EAER
Federal Office for Agriculture FOAG
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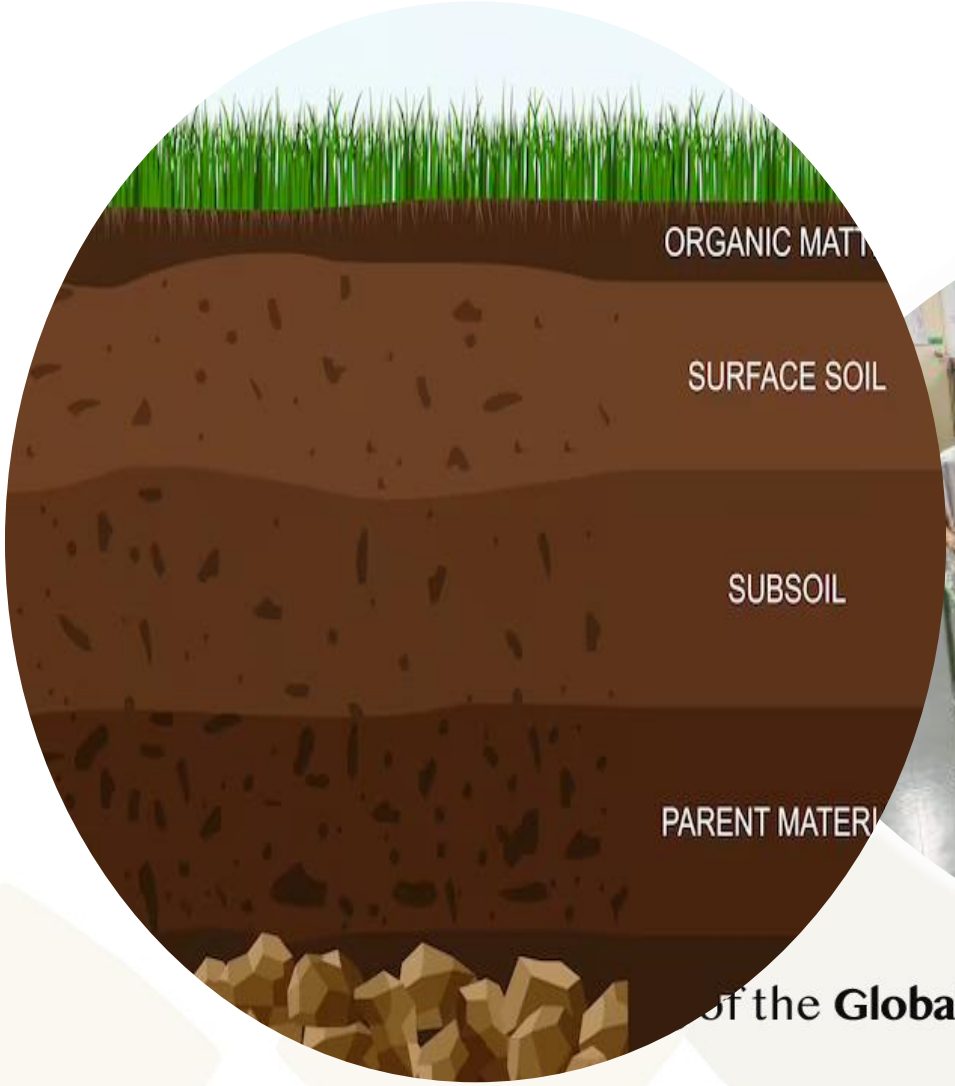
Figure 3: Soils provide for a range of ecosystem services as identified in the above infographic linking soil ecosystem services to the UN SDGs (Murphy, 2021)

Sustainable Development Goal (SDG) number 17, target 18:
"Enhance Availability of Reliable Data"

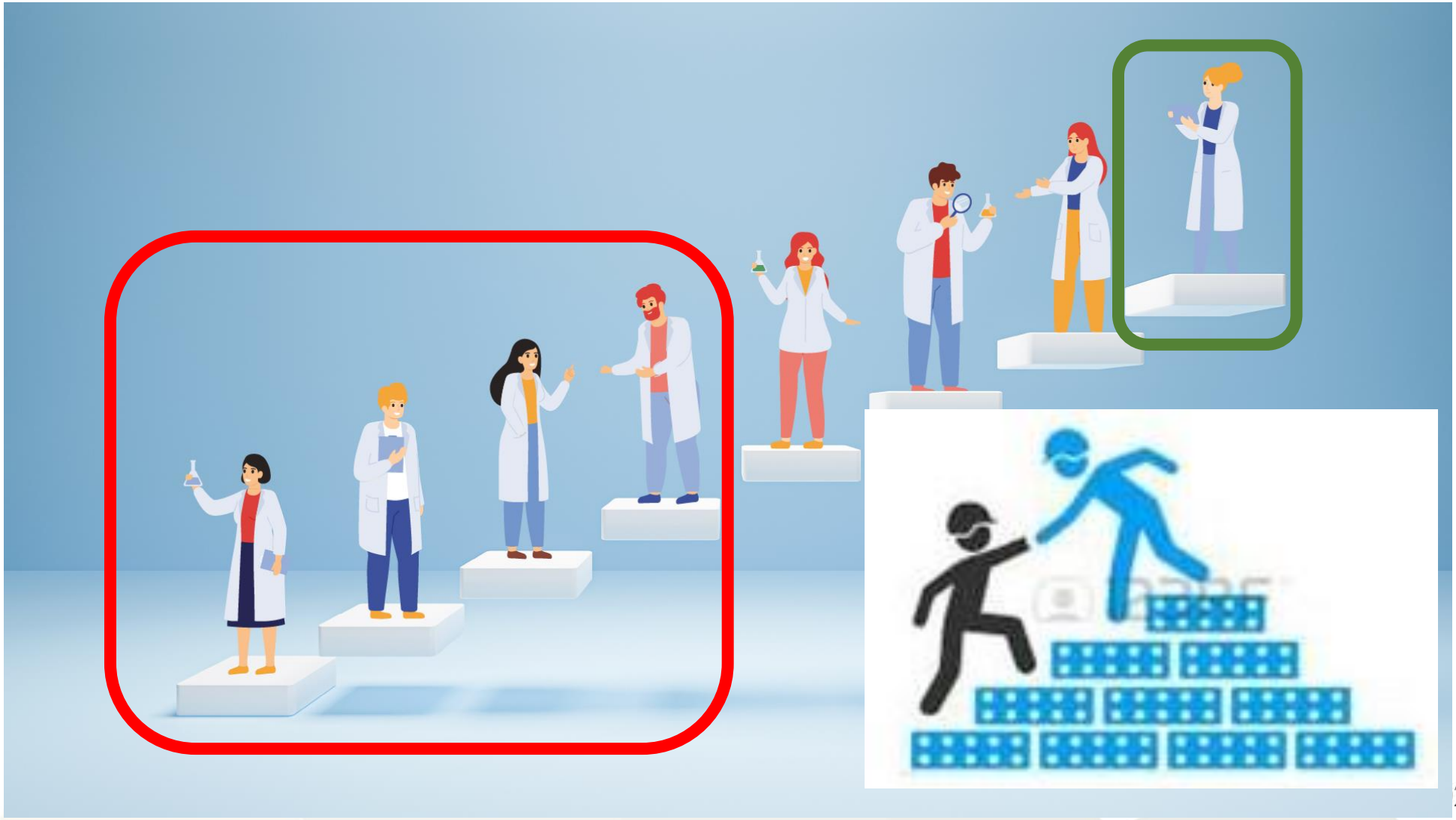
…the soil is a black box !



…our knowledge come from lab analyses

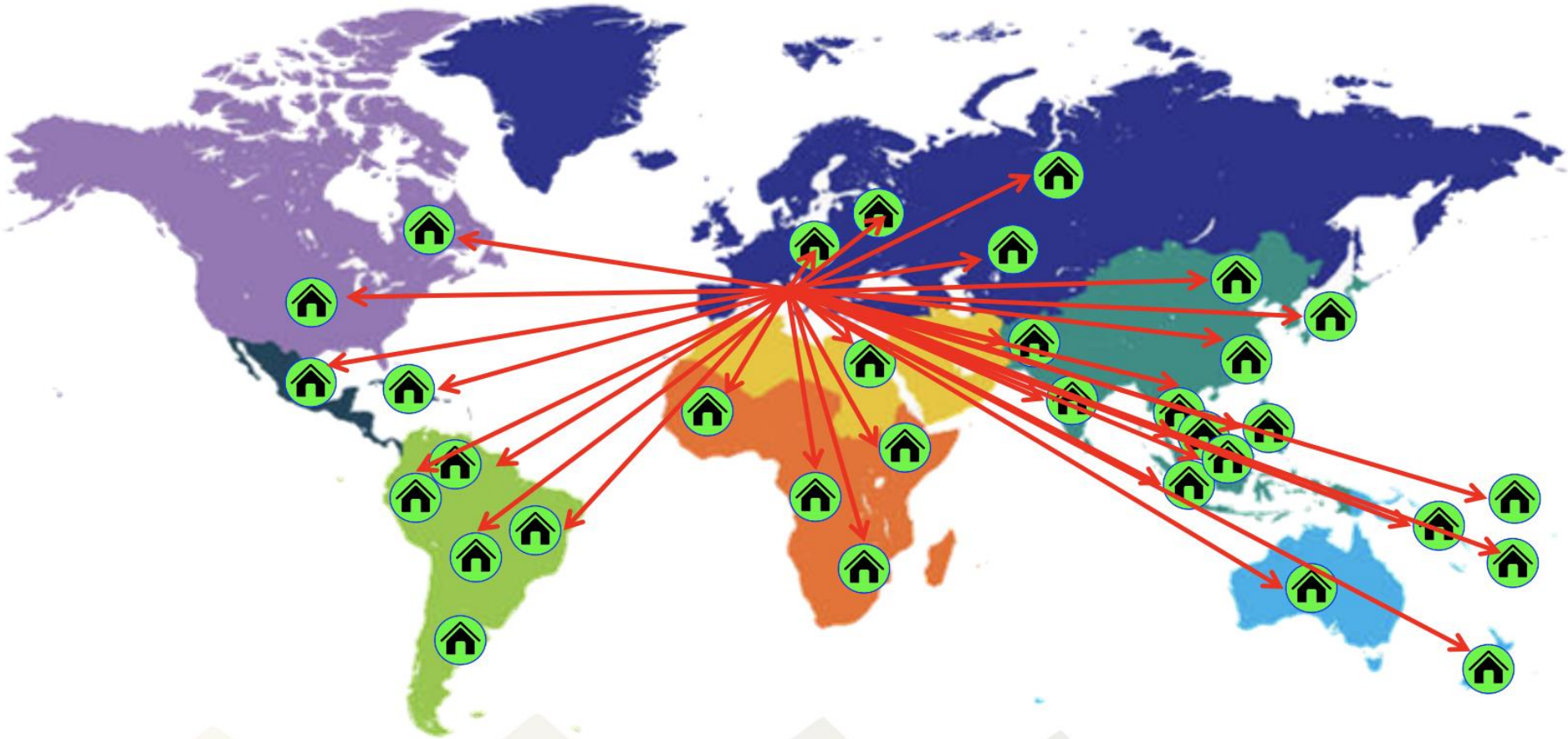
What is the expectation of each stakeholder

Improve the analytical capacity of global soil laboratories









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Remember

PT = proficiency testing

compare your results to known characteristics

ILC = Inter Laboratory Comparisons

compare your results to results of other participants

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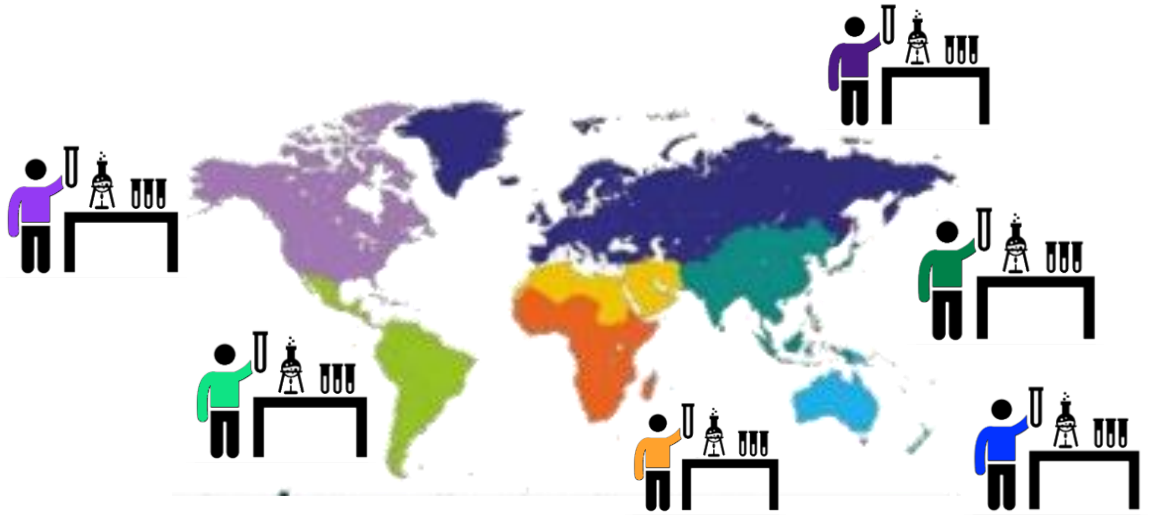

GLOSOLAN PT 2022

~ 200 labs > 100 countries

Accuracy & precision

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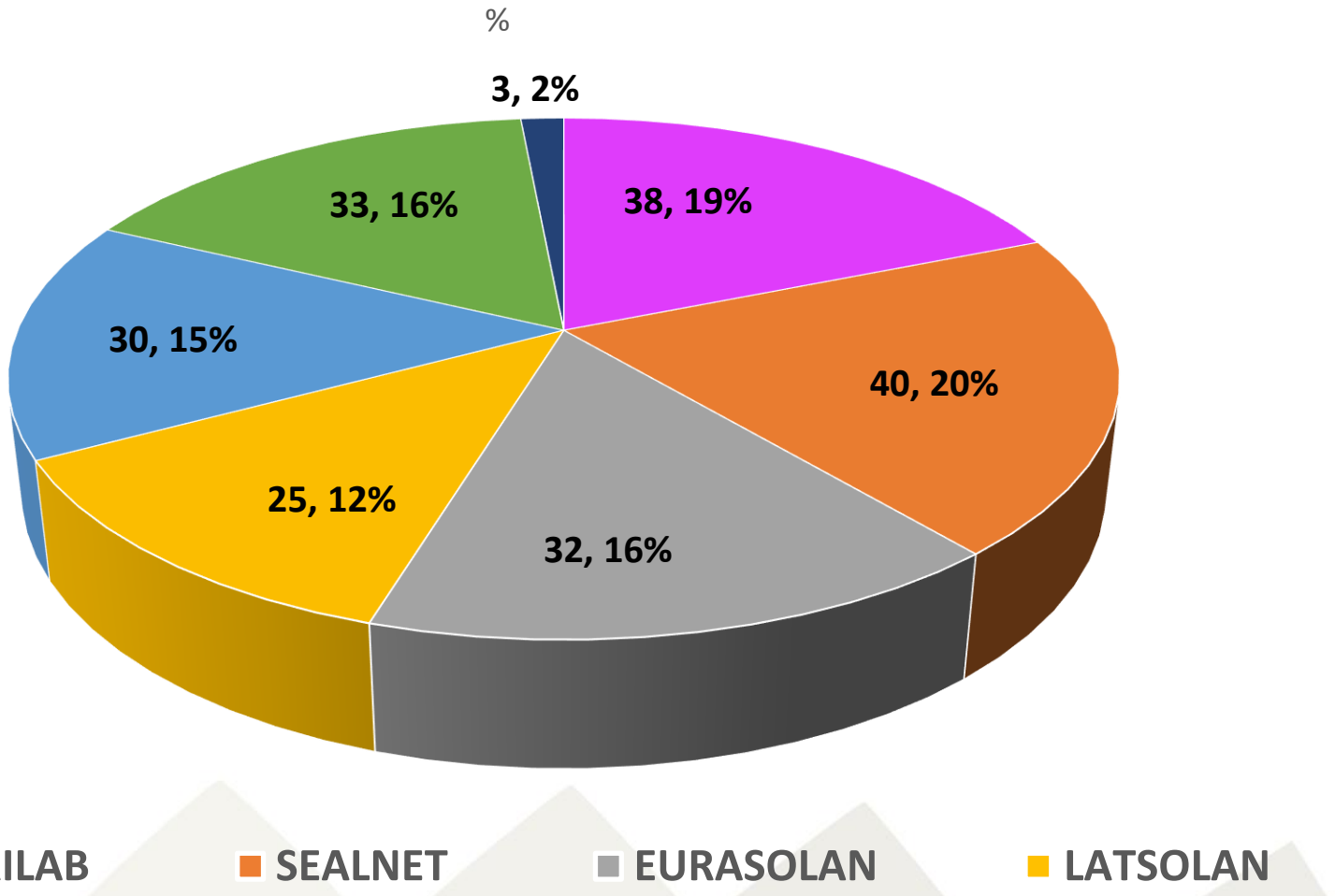
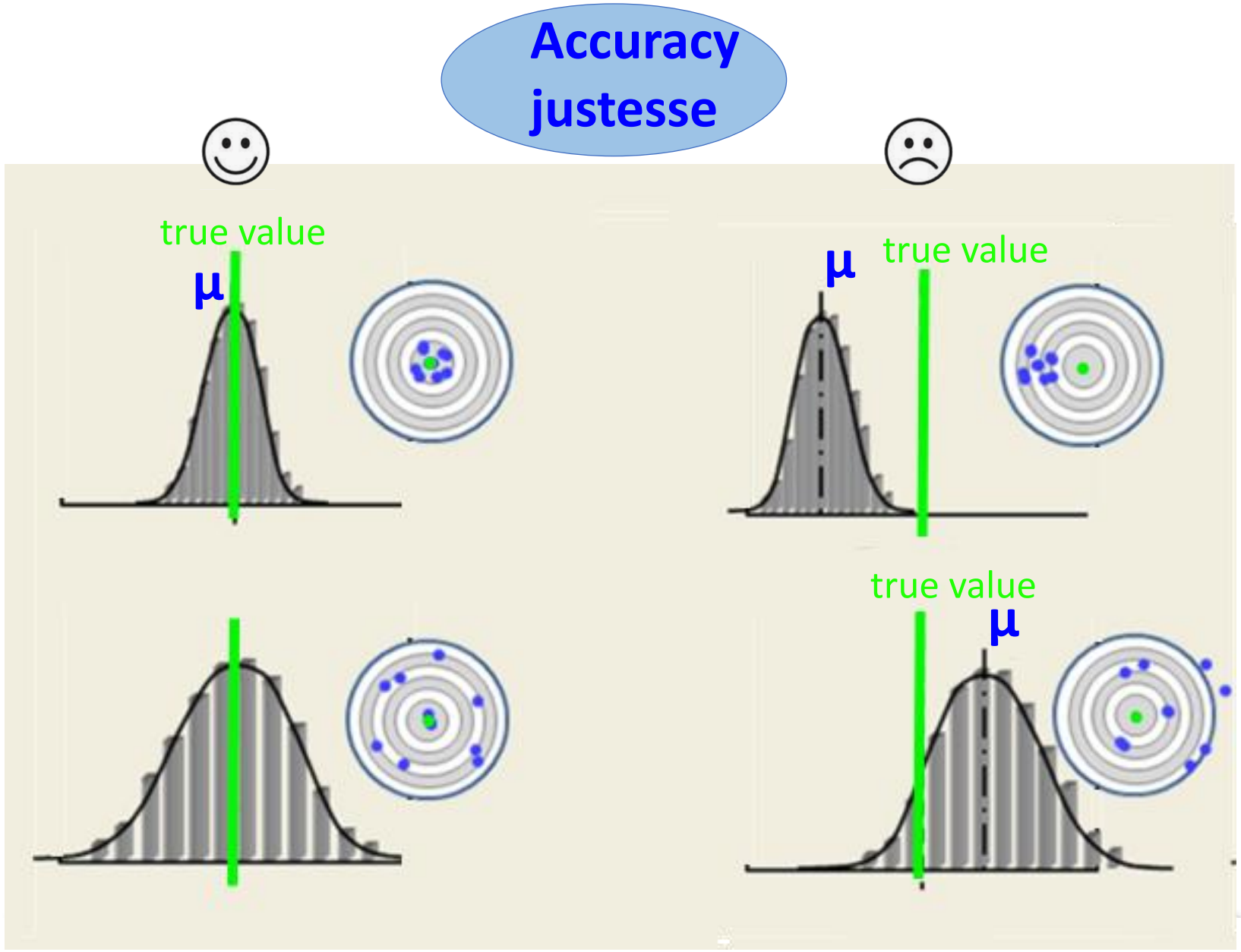
Sharing of the participating laboratories compare to the members registration to GLOSOLAN PT 2022

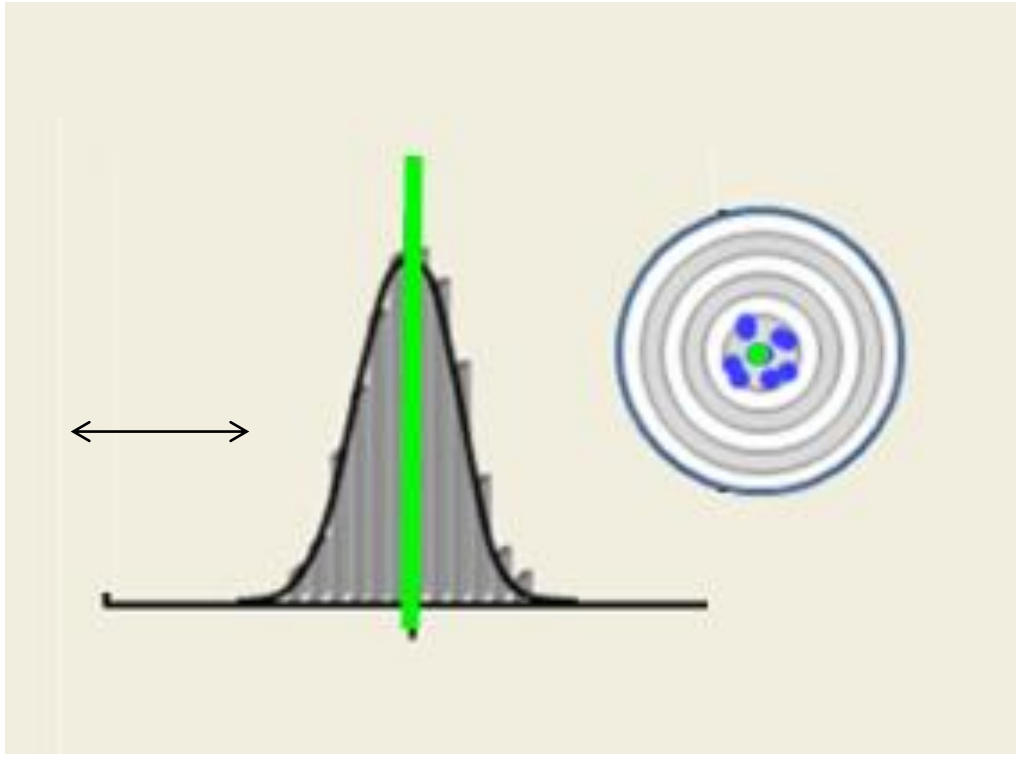


Different combinations:



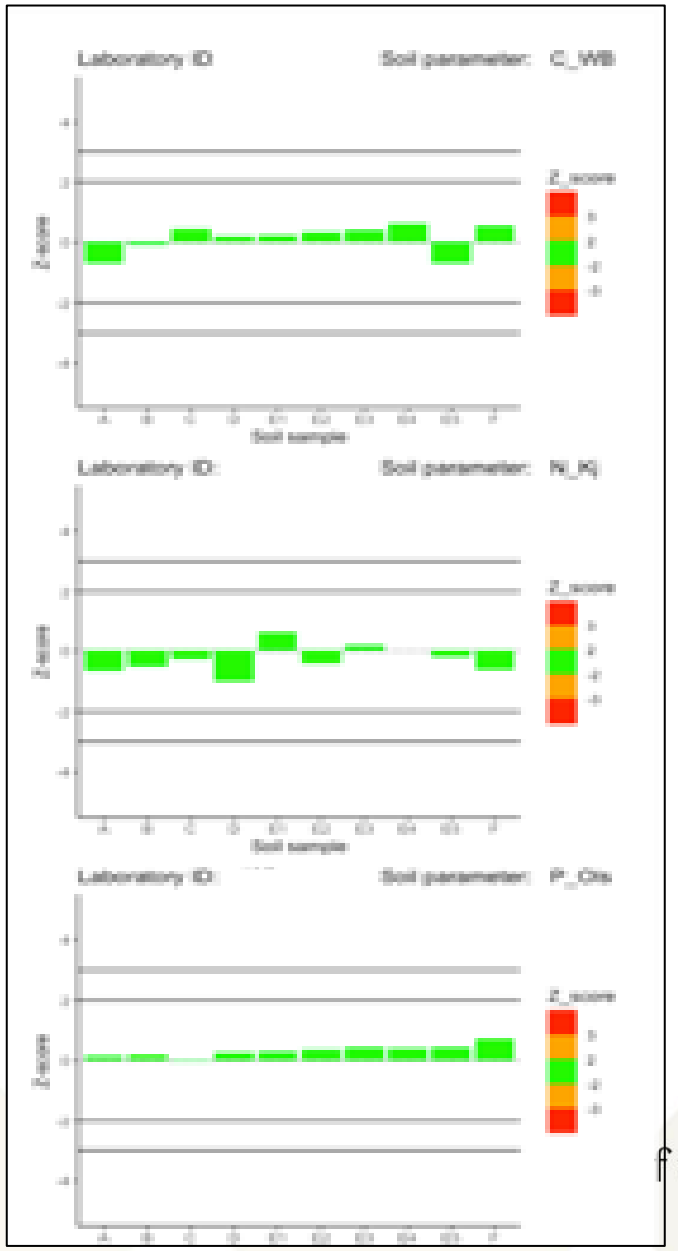
7th

High performing labs



‘good’ data for relevant conclusions/decisions

High performance lab



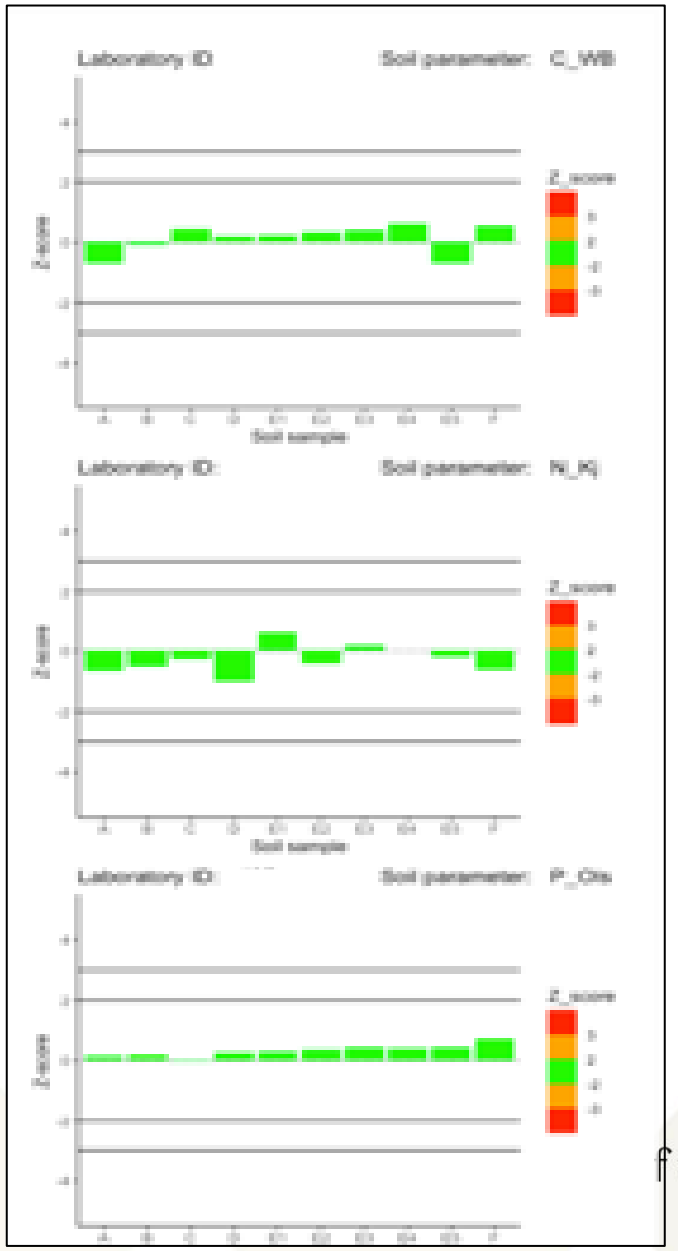
Good performance
(but some problems)

Low performance lab

f the Globa

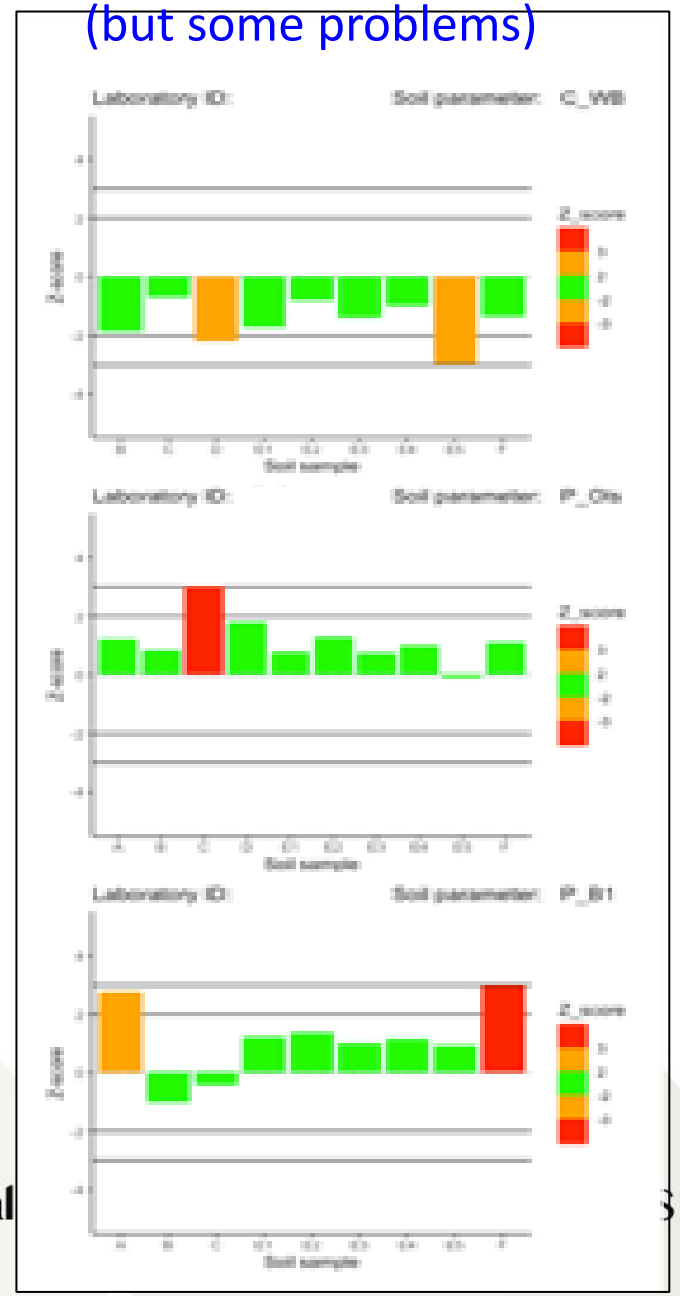
LAI

High performance lab



Good performance

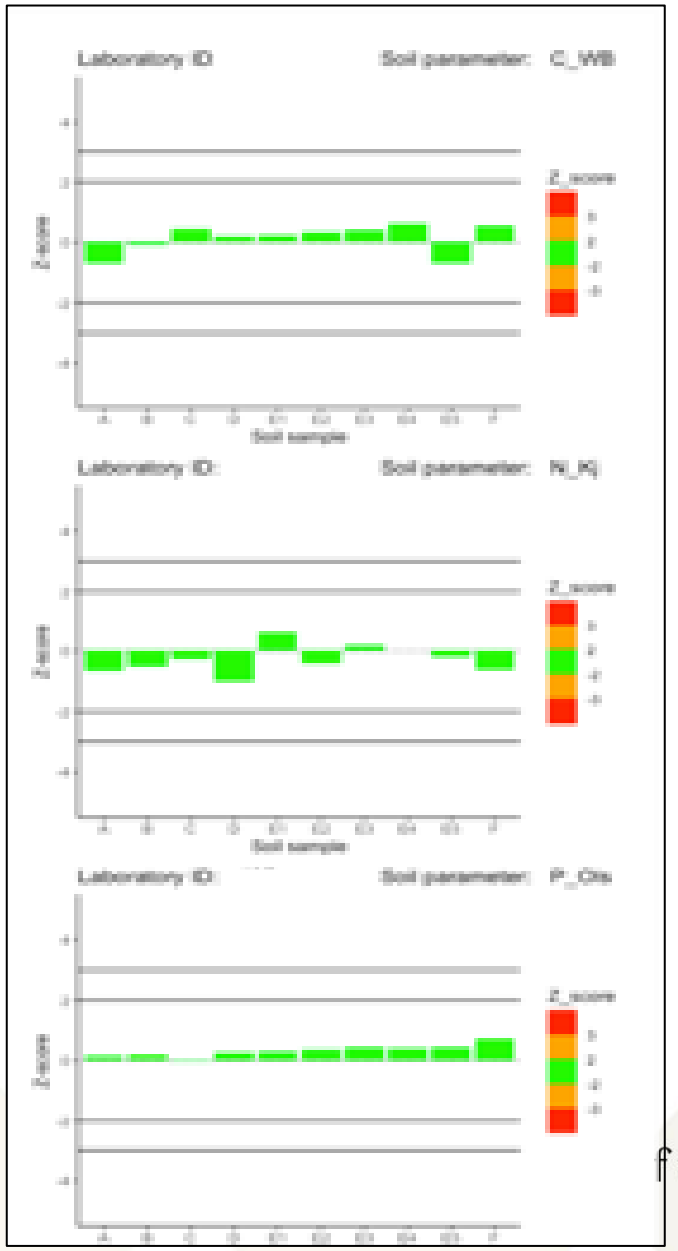
(but some problems)



Low performance lab

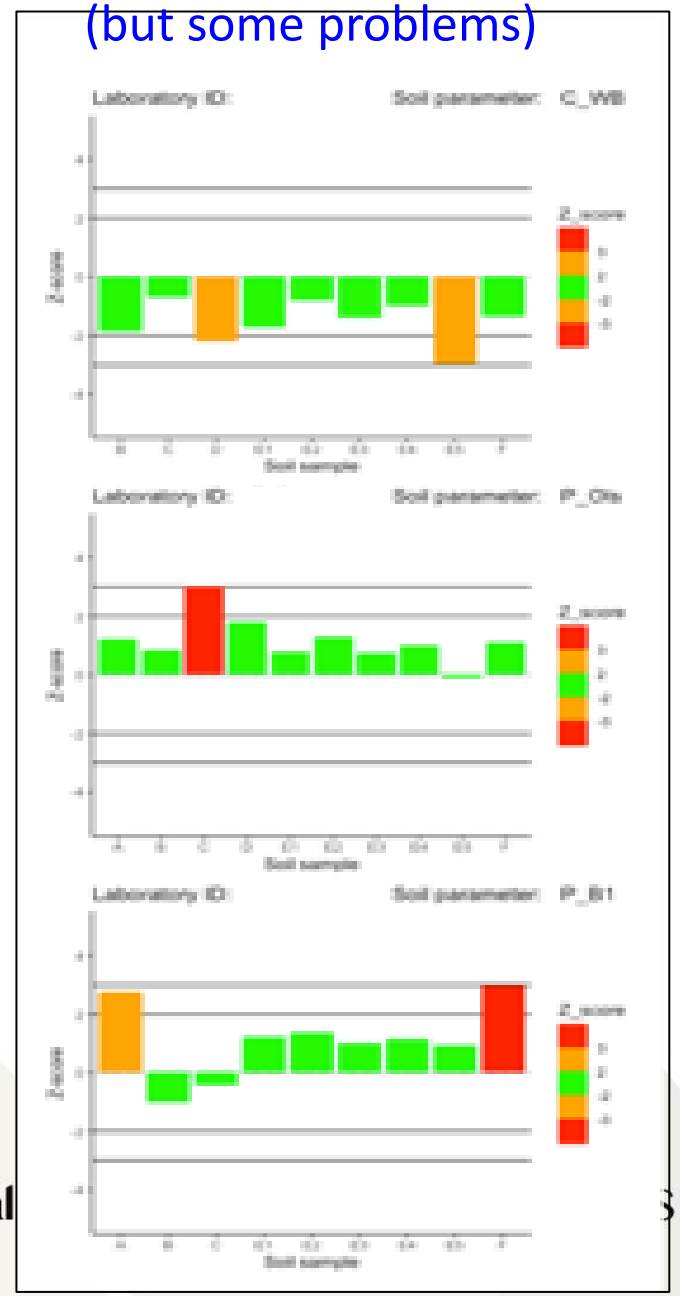
f the **Global** SOLA

High performance lab

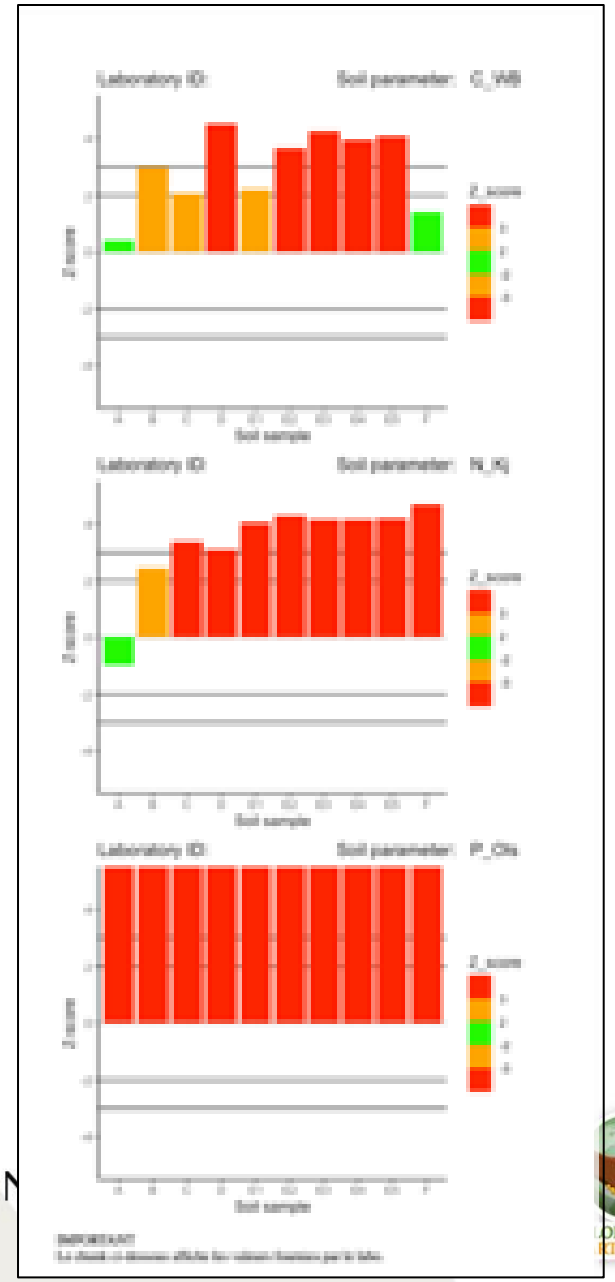


Good performance

(but some problems)



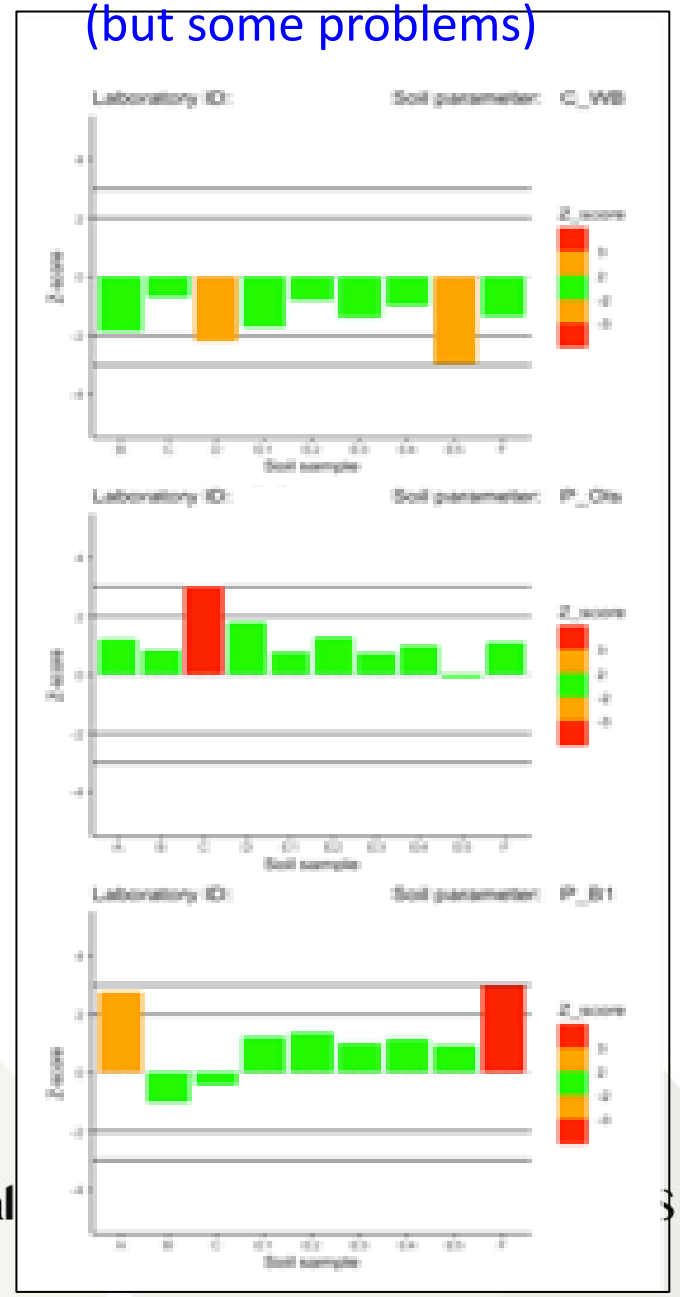
Low performance lab



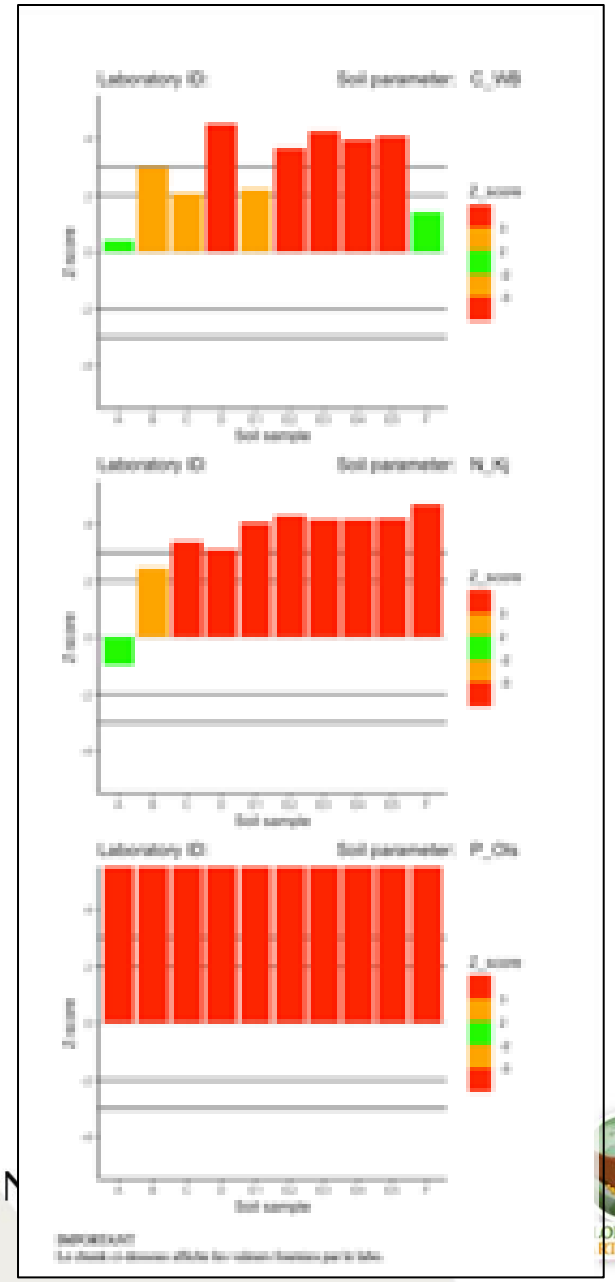
DID YOU TAKE ACTIONS?

AVEZ-VOUS AGIS ?

Good performance
(but some problems)



Low performance lab

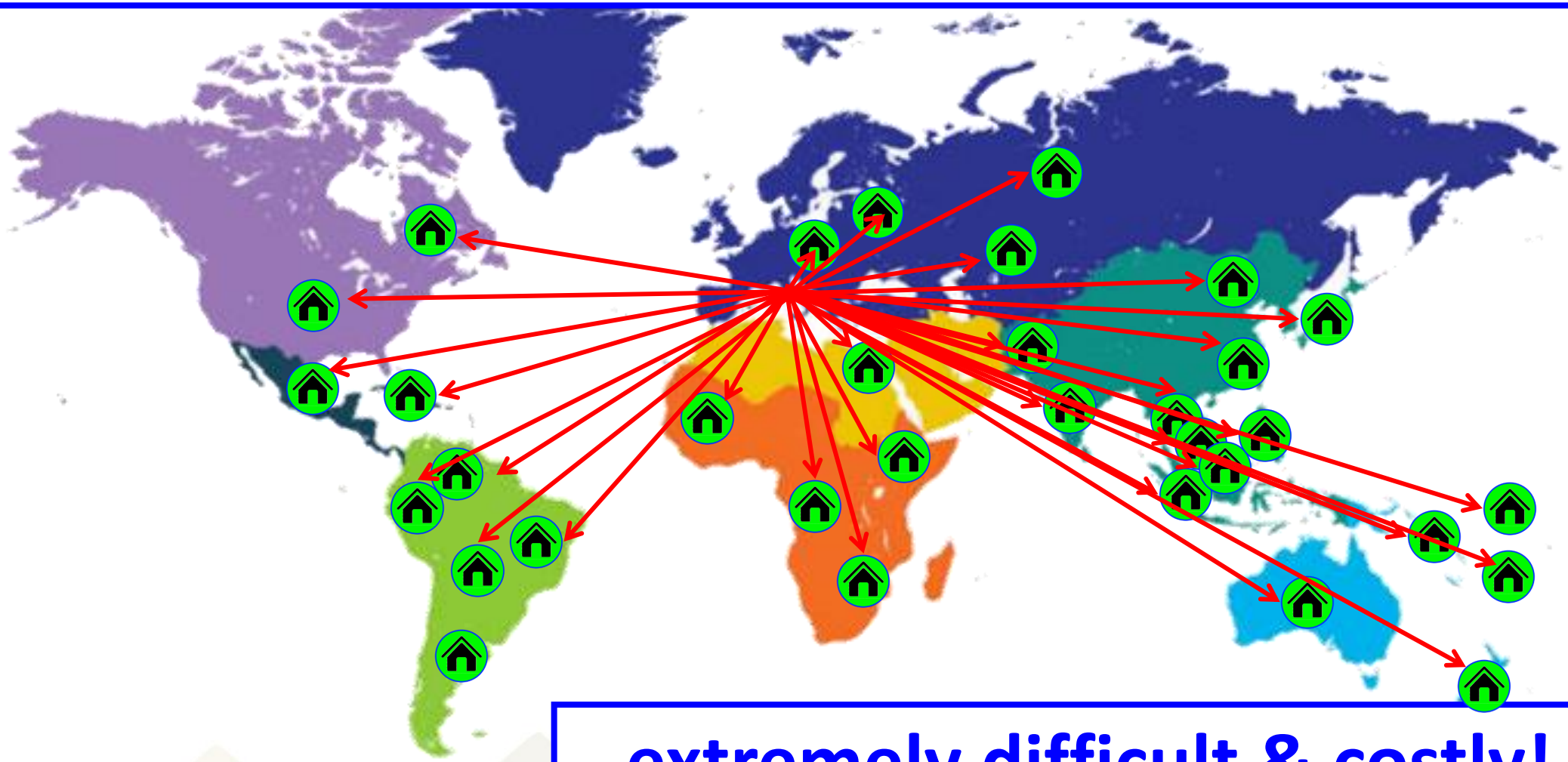


Problem facing from the PT activities

- Some lab managers lack of skill to check the quality of the results produced
- Transportation of the PT soil samples across the country boarder
- The low performance labs do not know how to proceed further to get the advice to improve their lab performance
- The lab managers do not know the benefit of the participation of the GLOSOLAN PT

GLOSOLAN global PT 2024

Preparing and sending samples from FAO Rome..

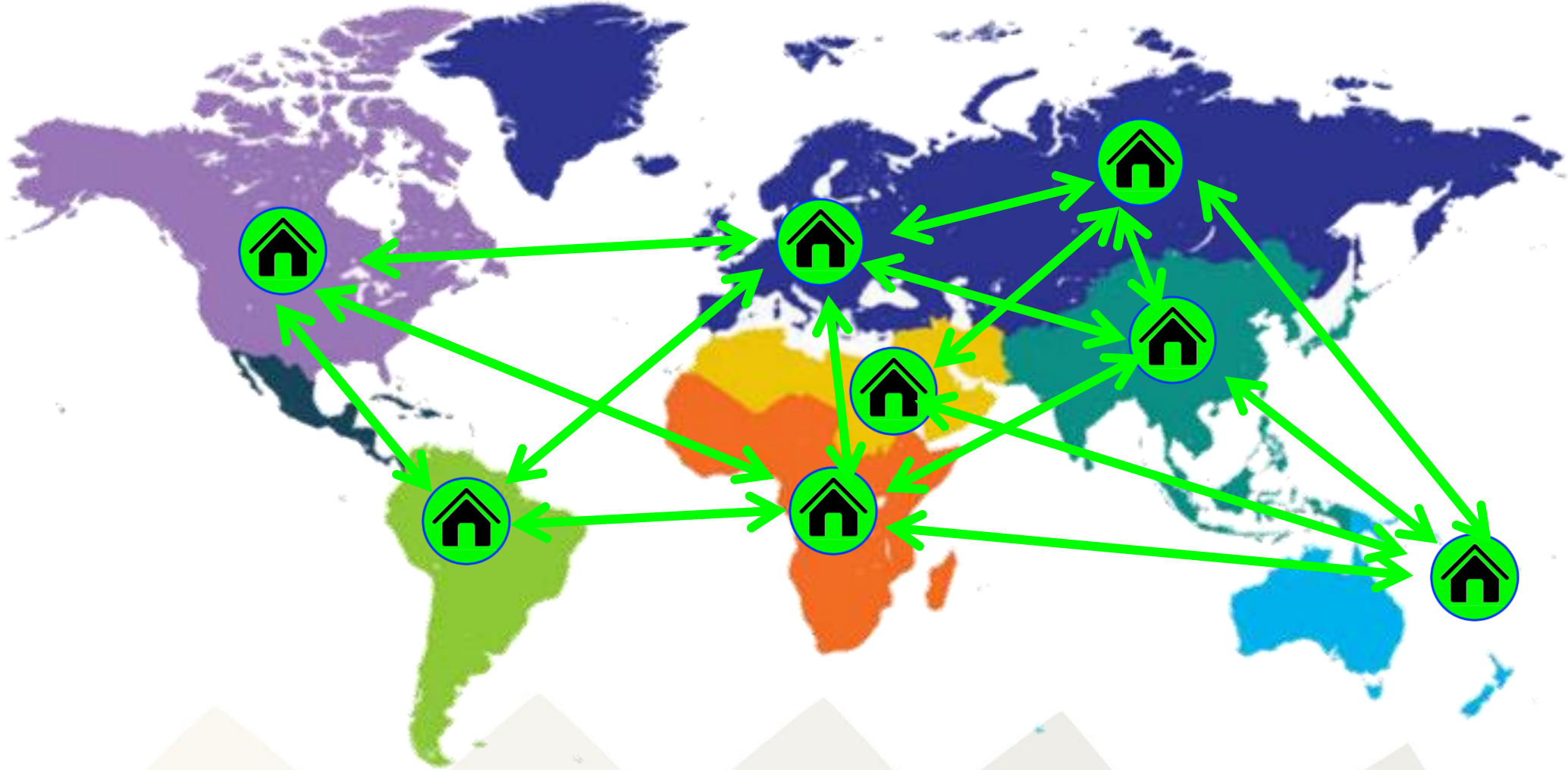


...extremely difficult & costly!

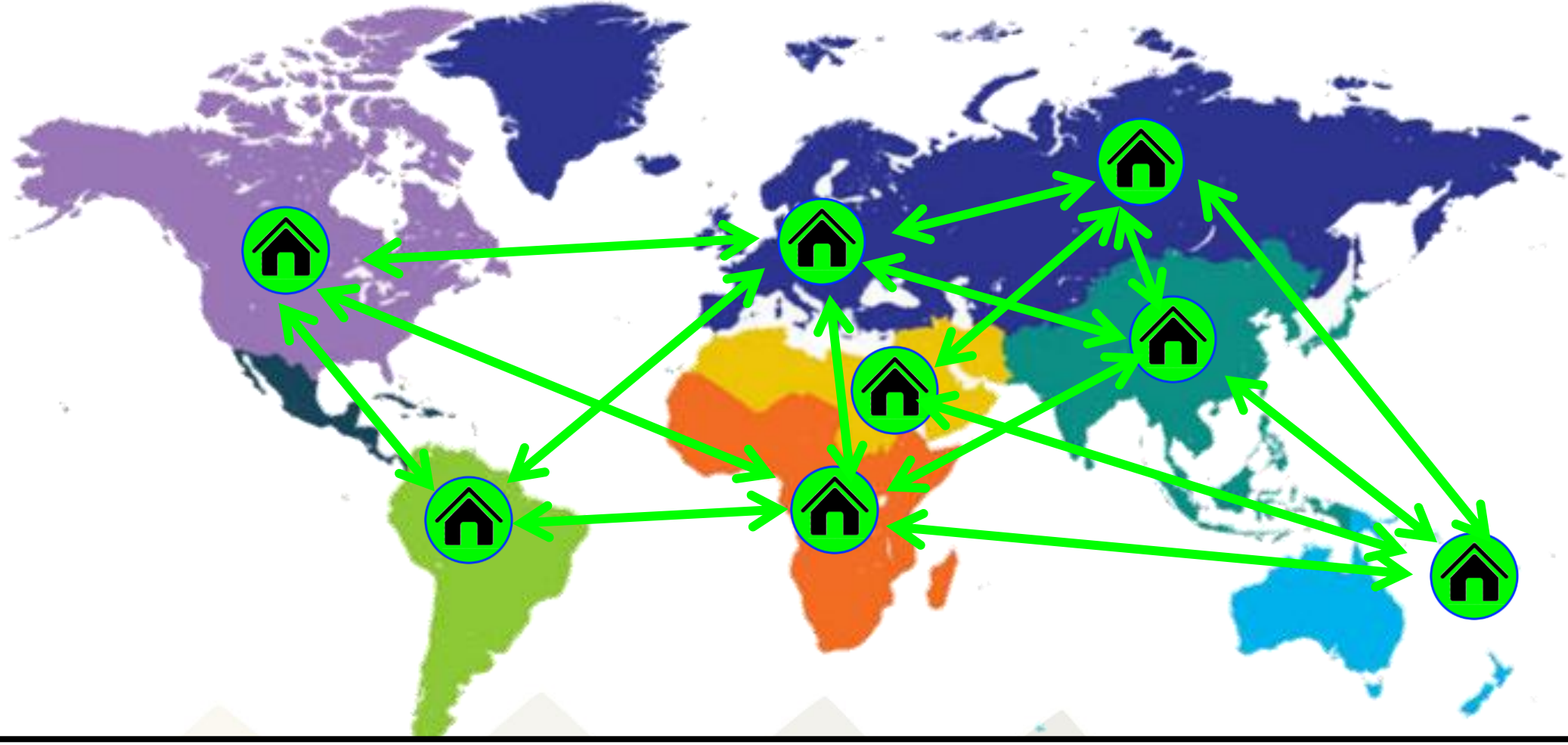
Two suggestions:

Firstly: GLOSOLAN PT…

GLOSOLAN PT: for good performing labs/ performants



GLOSOLAN PT: for good performing labs/ performants



GLOSOLAN PT: need budget/besoin d'un budget…

Second suggestions:

From our GLOSOLAN PT experience, several labs don’t have internal quality control…

Organise PTs WITHIN Regions

Discussion points

- Who can be a PT provider support for the GLOSOLAN PT /Regional PT?
- Which parameters/packages that you like to join us?
- Would you like us to support for identify your root cause to improve the performance of your laboratory?

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Thanks for your kind participating the discussion

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