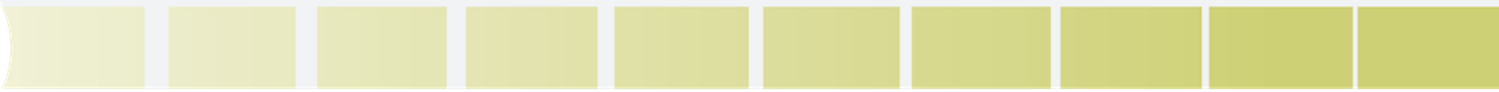
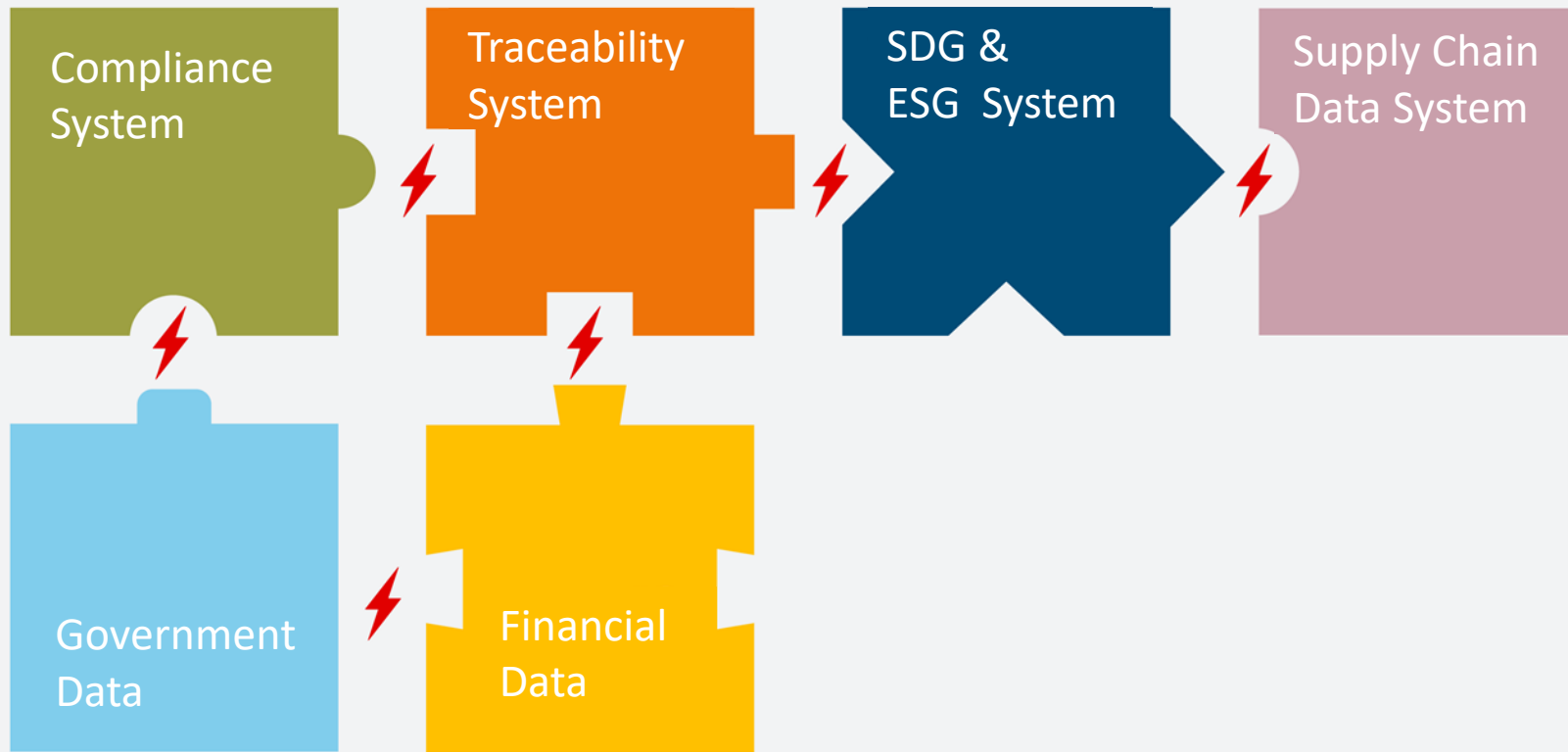




# Assessing the Quantum Leap in Ag. Data: A Blueprint for Transformation

**Challenge:** Incompatible individual solutions



## Aligned with International & Normative References

- ✓ CITES Convention
- ✓ Convention on Biological Diversity
- ✓ FAO Rome Declaration on World Food Security
- ✓ FAO GAP
- ✓ Global Compact - UN
- ✓ Global Forum on Responsible Business Conduct
- ✓ IFC Performance Standards on Environmental & Social Sustainability
- ✓ ILO Core 8 Conventions
- ✓ International Covenant on Economic, Social and Cultural Rights
- ✓ International Plant Protection Convention
- ✓ OECD Agri-Environmental Indicators
- ✓ OECD-FAO Guidance: Responsible Agricultural Supply Chains
- ✓ Ramsar Convention on Wetlands
- ✓ Rio Declarations
- ✓ Stockholm Convention on Persistent Organic Pollutants
- ✓ Sustainable Development Goals
- ✓ UN Guiding Principles on Business and Human Rights
- ✓ UN Framework Convention on Climate Change
- ✓ Universal Declaration of Human Rights
- ✓ Winnipeg Principles
- ✓ WHO Guidelines for Water Quality
- ✓ and others...



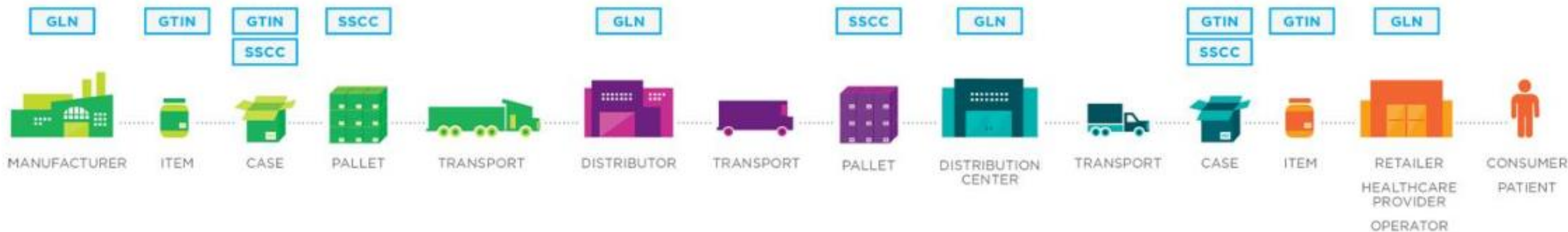
## IDENTIFY: SYSTEM IDENTIFICATION NUMBERS

**GLN** Global Location Number

**GTIN** Global Trade Item Number\*

**SSCC** Serial Shipping Container Code

**EPC** Electronic Product Code™



## CAPTURE: SYSTEM DATA CARRIERS

### BARCODES

EAN/UPC



GSI DataBar™



GSI DataMatrix



ITF-14



GSI-128



### EPC-ENABLED RFID TAGS

HF RFID



UHF RFID



## SHARE: INTERFACE STANDARDS FOR ELECTRONIC COMMERCE

**MASTER DATA**

Global Data Synchronization Network™ (GDSN®)

**TRANSACTIONAL DATA**

Electronic Data Interchange (EDI)

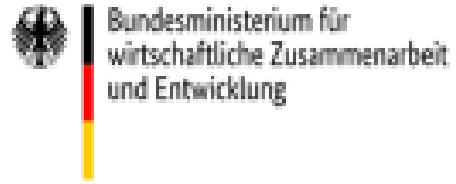
**PHYSICAL EVENT DATA**

EPC Information Services (EPCIS)



## A solution defined:

**Data Interoperability** is the capacity of different information systems, devices, or applications to access, exchange, validate, and integrate or use data, to provide timely portability of shared information.





## ▶ 4 Domains of interoperability

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### **1. Semantic**

Definition of what is being measured with detailed taxonomy, meaning, and purpose of the indicators & metrics

### **2. Syntactic**

Rules for how data is processed, arranged or coded, and reported

### **3. Structural**

Format for how data is secured to be cross-functional and transmitted with fidelity

### **4. Governance**

Sovereignty, Privacy, Security

# Semantic example

## Basic Indicator Description & Technical Representation

DESCRIPTION FIELDS	Indicator Name	Women's Participation in Training
	Indicator ID/Code	Number X.X
	Element / Theme	Social/ Gender
	Description	Women attending and completing trainings in specified topic areas for specified times
	Data Subject	Capacity building; Gender Inclusion, Empowerment
	Metric	% of participants that complete trainings who are women and correlation to key outcomes (yield, income, efficiency, decision-making
	Unit	Expressed as percent of total people attending
	Report Frequency or Timing	Annually, can be updated as needed
	Disaggregation & Segmentation	Data can disaggregate by regional or municipal level to reduce naming duplications and determine target or focal areas. Gender, Age, Education levels,
	Scientific Rationale	<a href="#">IFPRI, WEAI, US D.oL. FAO Gender Handbook. BMGF Gender Program</a>
	Alignment to Goals or Reporting	<a href="#">SDG 8; 8.1; 8.24</a> <a href="#">GRI v. 4 Section</a>
	Benchmarking	WEAI, IWCA, ILO Core Principles; Oxfam Gender Index
	Performance Standard	Value of 0.5 indicates that the gender gap is close to zero (gender equity)
Limitations and Assumptions	Detail any limitations of the synthesized approach	
CALCULATION FIELDS	Calculation: NUMERATOR	For each training conducted, the number of participants who are women
	Calculation: DENOMINATOR	For each training conducted, the total number of participants
	Data Source	Producer Database held by co-op, trader, exporter, or NGO: FarmGender (Gender of farmer) TrainingsAttended (Number of trainings attended)
	Validations	FarmGender: two options are valid-- "male" or "female" TrainingsAttended: a positive integer
	Subject of analysis	Supply chain, program/ project, PO or community level
	Exclusion / Inclusion Criteria	Includes: Farmers where frmGender is "FEMALE" Farmers where trainingsAttended is greater than 0
SAMPLE CODING	<pre>women = 0 totalFarmers = 0 for farmer in farmers {   if (farmer.frmGender = "FEMALE") then {     if (farmer.trainingsAttended &gt; 0) then women += 1   }   totalFarmers += 1 } print women/totalFarmers</pre>	



# Solving from a **systems** perspective in 3 dimensions





# Thank You

