AI and LLM models

# Now to illustrate why data is so critical in the world of Agentic Design

Example identifiers in this deck are illustrative, not allocated keys.

Dan O'Gorman · Engagement Consultant, Construction · GS1 Ireland

# RW-01 retaining wall: tender package

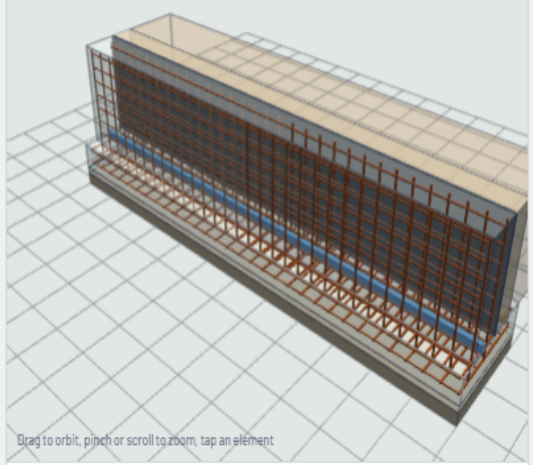
One design brief turned into a coordinated package: a LOD 350 model, a CESMM4 bill of quantities, a bar schedule, embodied carbon, a 4D programme, the NEC4 documents and a 1:1 model for viewing in AR on site. Every number below is measured from the same model, so the files agree.

Rates, carbon factors and dates are Claude's draft. Replace them before tender.

| €19,799 | 139 h | €8,418 | 1.48 tCO₂e | 15 working days | 14 |
|---|---|---|---|---|---|
| Tender sum, built up | Operative hours, at €42/h | Testing, supervision and fabrication QA | Embodied carbon, A1–A3 | Draft programme | QC checks, linked to S-GTIN and GIAIs |

Labour rate €/h 42 Staff rate €/h 89 Set once here; every activity, bill rate and total updates.

Built In progress Selected




Play

Complete, Fri 19 Mar 2027 Cost to date €19,799, 100%

Show reinforcement Show future work faintly Show backfill

## Tap an element

See its identity, quantity, bill items, carbon and dates. Drag the slider to watch the wall build and the cost add up.

1 Design 2 Bill of quantities 3 Cost build-up 4 Materials 5 Carbon 6 Programme

## Design to LOD 350

LOD 350 means the model shows how each element meets the next: the joint, the bars that cross it, the membrane and the drain. That is what lets the bill and programme be measured rather than guessed.

### Geometry from the brief

| | |
|---|---|
| Wall stem | 6.0 m long, 1.2 m high, 450 mm thick |
| Base | 1250 mm wide, 300 mm deep |
| Heel (retained side) | 600 mm beyond the wall face |
| Toe | 200 mm beyond the wall face |
| Below base | 75 mm blinding on 150 mm hardcore |
| Concrete | C32/40, XC4, Dmax 20 mm, S3, 50% GGBS, to I.S. EN 206; blinding C16/20 |
| Design basis | I.S. EN 1992-1-1 and I.S. EN 1997-1 with Irish National Annexes; TGD A |
| Cover | 50 mm earth faces, 40 mm exposed faces |

### Interfaces modelled

**Base to wall:** kicker joint with waterstop; mark 01 bars run from the base into the wall.

**Wall to ground:** membrane on the retained face, 300 mm drainage layer, 100 mm drain at the heel.

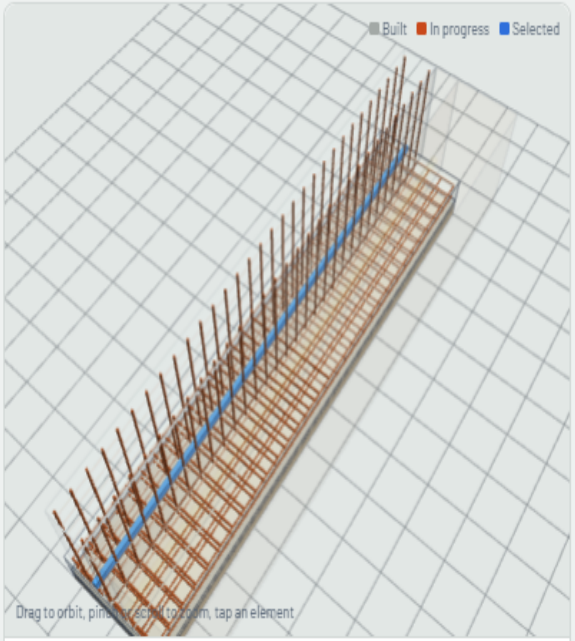
**Base to formation:** blinding and hardcore measured to the footprint.

### Identity on every element

| DAI | Element | IFC class | Quantity |
|---|---|---|---|
| DAI-RW01-X01 | Excavation to formation | IfcEarthworksCut (not modelled as a solid) | 8.27 m³ |


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Labour rate €/h 42 Staff rate €/h 89 Set once here; every activity, bill rate and total updates.


Play

Day 6, Mon 8 Mar 2027 Cost to date €8,571, 43% · Cure base

Show reinforcement Show future work faintly Show backfill

## Tap an element

See its identity, quantity, bill items, carbon and dates. Drag the slider to watch the wall build and the cost add up.

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## Measured bill of materials

What has to be bought, separate from how it is priced. The bar schedule follows BS 8666 shape codes.

| Mark | Type | Shape | No. | Length (m) | Mass (kg) | Location |
|---|---|---|---|---|---|---|
| 01 | H18 | 11 | 62 | 1.76 | 218.02 | Starter and wall vertical bars, both faces, at 200 centres |
| 02 | H12 | 00 | 14 | 5.92 | 73.60 | Wall horizontal bars, both faces, 7 rows |
| 03 | H18 | 00 | 62 | 1.76 | 142.46 | Base transverse bars, top and bottom, at 200 centres |
| 04 | H12 | 00 | 14 | 5.90 | 73.35 | Base longitudinal bars, top and bottom, 7 each |
| **Total reinforcement** | | | | | **507.43** | **92 kg/m³ of structural concrete** |

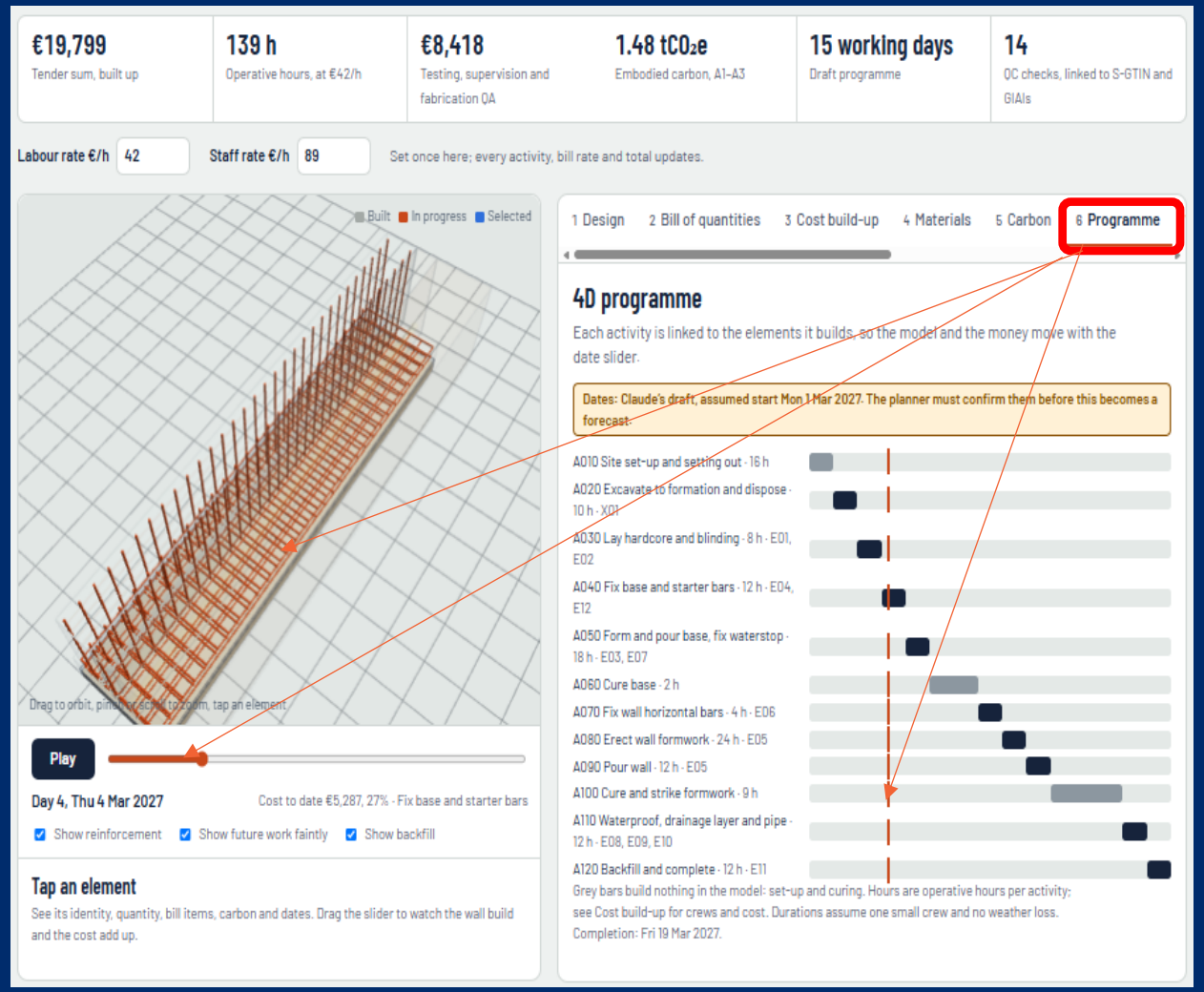
### Other materials

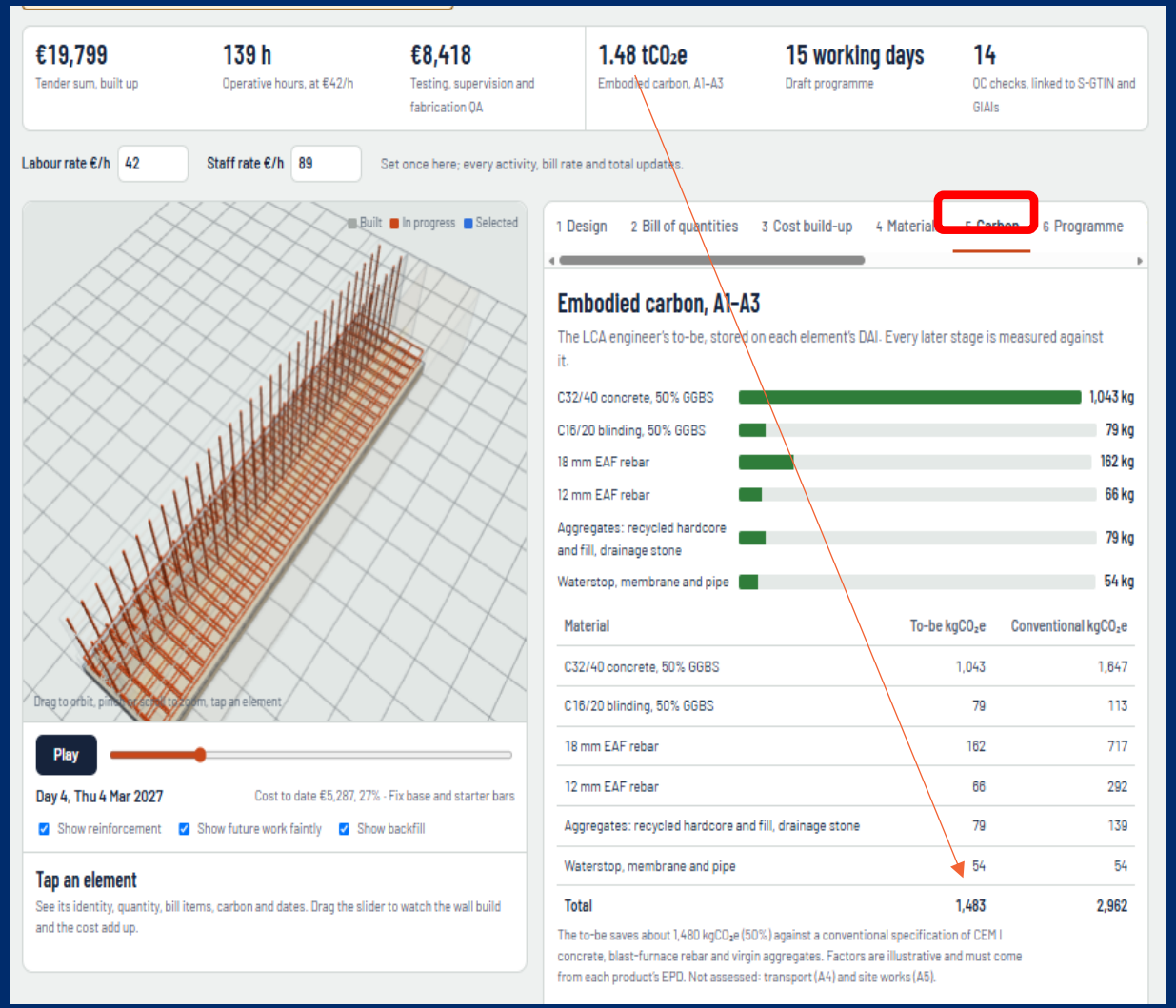
| Material | Net quantity | Procurement identity |
|---|---|---|
| Ready-mix C32/40 | 5.49 m³ | Delivery tickets linked to E03, E05 |
| Ready-mix C16/20 | 0.56 m³ | Delivery tickets linked to E02 |
| Hydrophilic waterstop | 6.00 m | GTIN and DPP from supplier |
| Waterproofing membrane | 7.20 m² | GTIN and DPP from supplier |
| 100 mm perforated pipe | 6.00 m | GTIN and DPP from supplier |
| Granular fill and hardcore | 13.38 m³ | Source and grading certificates |
| Formwork, wall and base | 19.83 m² | Temporary works, not handed over |

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Please double click here to interact with the demo RW-01 retaining wall

# Schedule and Carbon




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Please double tap here to explore the RW-01 Retaining Wall: Tender Package solution

# Making a difference

## Design intent, from mill to melt

1

### Fixed once

Approved on the DAI, never re-keyed

2

### Checked at every hand-off

EPCIS 2.0 events, managed by exception

3

### Proven at the melt

Recycled content as evidence

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# Please view the video

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# No new apps- Just use open, interoperable and persistent tags.

### Standards stay technology-neutral.

We just need these platform providers — Like

**Procore, Trimble Site View, Autodesk Forma,**

or equivalents which are already used on sites — to swap out their proprietary QR tags for the open, interoperable, persistent GS1 standard tags to the GS1 Digital Link Standard.

***One Scan = Multiple Outcomes that are specific to the needs of each actor***

*That means !!!*

*. No new app for the crew on site to learn.*

**Every state-change of a Core Maintainable Asset (CMA) is then captured frictionlessly:**

1. ***Dispatch***
2. ***Receive***
3. ***Handle safely***
4. ***Install***
5. ***Inspect***
6. ***Commission***
7. ***Maintain (in-warranty parts)***

*These CMAs originate from the OIR/PIR/AIR/AIM templates already agreed in the BEP under ISO 19650 — this is existing Australian practice, not an added burden.*

# A shared approach, with value for every partner

## Manufacturers

- Connect users to current information through a GS1 Linear/QR Code to the GS1 Digital Link standards , or Radio Frequency Identification tags

## Designers

- Use "Global Trade Item #" (GTINs), serial numbers, "Global Individual Asset Identifiers" (GIAIs) and Global Llocation # (GLNs) appropriately in specifications and BIM

## Contractors

- Maintain traceability from delivery through installation
- Access trusted product and installation information
- Record key site and installation events
- Provide structured, reusable information at handover

## Owner-Operators

- Set clear information requirements from the beginning
- Give assets and spaces consistent identities
- Connect handover information with facilities systems
- Support safer maintenance, easier compliance and better lifecycle decisions

**Core identifiers: GTIN for trade items • GLN for parties and locations • GIAI for owner-managed assets**

# Data readiness check list = better outcomes

## Five prudent questions

- 📌 **Can every location be identified consistently?**
- 📦 **Can everyone confirm which products were specified & installed?**
- 🏭 **Can each maintainable asset be traced throughout its lifecycle?**
- 👷 **Can authorised people & activities be recorded where required?**
- 🔄 **Can information move reliably between project & FM systems?**



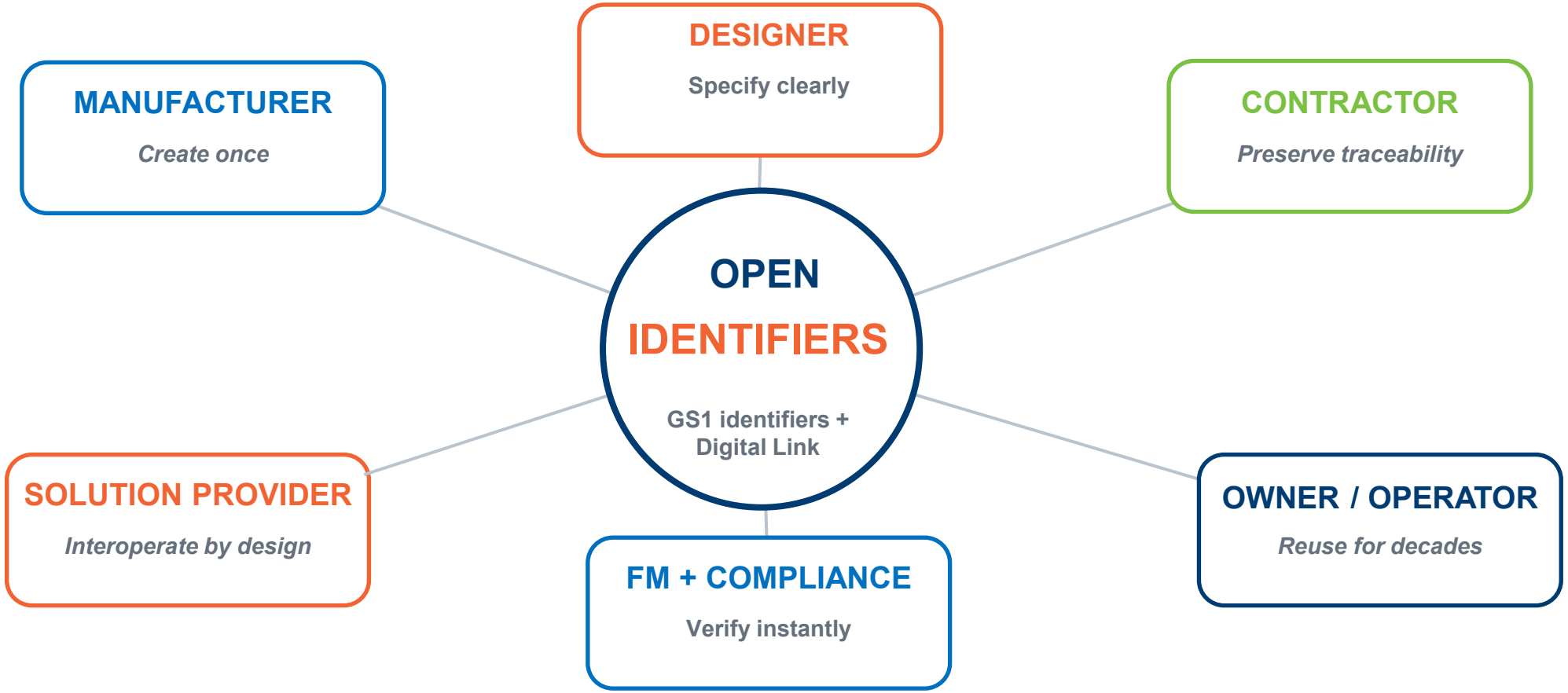





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# Open, Global identifiers for every stage & every system.

GS1 standards connect the Golden Thread of product information to places, products, assets and the standards that support them




**ONE SCAN. TRUSTED DATA. NO VENDOR LOCK-IN.**

# Exercise your right to start with the end in mind & reap the benefits

The client sets the requirements via the BIM to ISO19650 outputs. The supply chain and its technology providers will follow it.

## SPECIFY THE IDENTIFIER TO USE, NOT THE APP.

- Proprietary identifiers codes may solve today's task.
- 
- Nevertheless, open, interoperable & persistent GS1 identifiers preserve tomorrow's value.

## Make these four requirements a non-negotiable deliverable

1. **CLIENT / OWNER**
   Write GS1 identifiers and GS1 Digital Link into information requirements, specifications and contracts.
2. **DESIGNER**
   Use GTINs for products and GLNs for locations plus carry the identifiers through to design & operations.
3. **CONTRACTOR**
   Preserve product identity from delivery through installation, commissioning and structured handover.
4. **SOLUTION PROVIDER**
   Read, write and exchange GS1 identifiers without hiding data behind a proprietary QR code or platform.

**NEXT PROJECT: REQUIRE OPEN GLOBAL IDENTIFICATION FROM DAY ONE.**

GS1 Ireland

## 1 | The Challenge



**Without a common standard...**

information can be fragmented and hard to use.

## 2 | Introducing GS1




**GS1 provides the common standard...**

a trusted way to identify, connect and make sense of information.

## 3 | Bringing it Together




**GS1 brings it together...**

turning disconnected data into a clear, structured flow.

## 4 | A Useful Future




**GS1 makes the thread useful.**

Trusted identity. Real value. A more connected world.

Products | Supply chains | Assets | Information | People

GS1 THE STANDARD THAT MAKES A BRIGHTER TOMORROW

Follow up

# Thank you for your time



For more info, please send me an email at dan.ogorman@gs1ie.org

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