Coordinated Inauthentic Behaviour Detection Tree

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This document part of the veraAI project, to be included in Deliverable D4.2

Table of content

Definition of CIB

EU regulation

- How CoP, DSA and EDAP understand CIB
- There is not an accurate definition

Platforms

- CIB reported in the policies of different social media platforms
- CIB definition differs from platform to platform

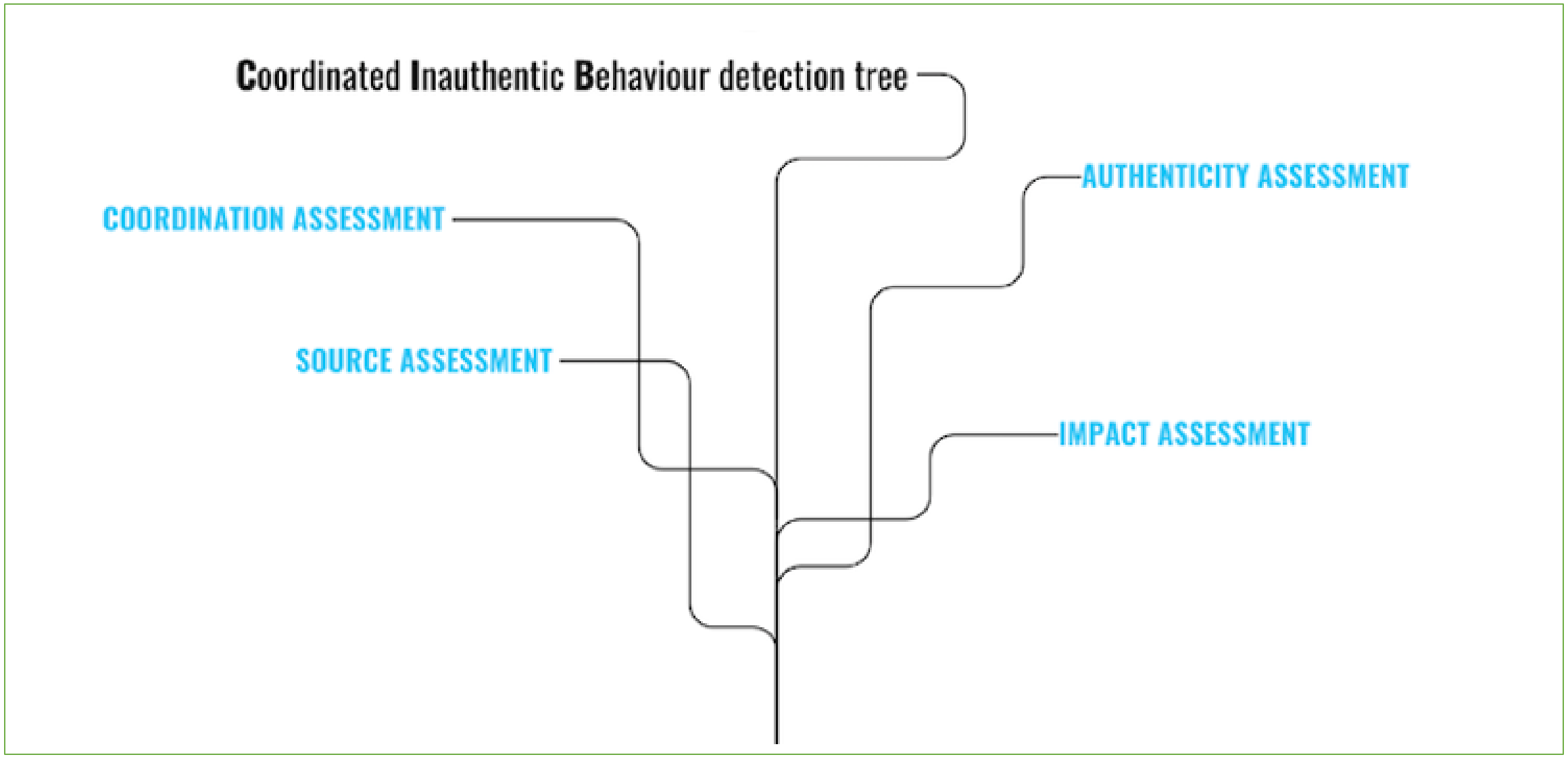
\+ *Absence of specific platform mechanisms to report CIB*

EU DisinfoLab approach

CIB is a manipulative communication strategy based on:

- Distribution and amplification of content in a coordinated and non-organic way
- Using mostly fake accounts, and sometimes even authentic accounts
- Circulation of content is fully, partially automated or not automated at all

CIB detection tree



Coordination assessment branch

How do we detect coordination?

- Structured arrangement of tasks and efforts
- Multiple agents collaborating (Coordination ≠ automatisation)
- Same goal - to deceive

All of this is compounded by the challenge posed by AI

Indicators of coordination

BEHAVIOURAL ANALYSIS

- Accounts created around the same time
- Similar posting timestamps
- Sudden spikes in messaging
- Significant activity from locations/ time zones

NETWORK ANALYSIS

- Accounts interacting synchronously
- Tightly interconnected clusters of accounts.
- Similar posting cross-platform patterns

CONTENT ANALYSIS

- Identical or similar textual content (in different languages too), hashtags, links, posts, images, videos or memes
- Single-topic accounts

IDENTITY ANALYSIS

- Same or similar profile name or bio

METADATA ANALYSIS

- Multiple accounts using the same IP address, device and configurations.

VISUAL ANALYSIS

- Same or similar profile picture or cover photo

Authenticity assessment branch

CIB pillar: assess the genuineness and legitimacy of the campaign's objectives, actors, and content
This is further complicated by the AI challenge.

CONTENT-LANGUAGE ANALYSIS

- Poor translation, misspelling, typos.
- Sense of unnaturalness/ repetitive tone
- Extreme content polarisation (amplifying specific narratives) or whimsical and conspiratorial plots
- Manipulated, forged or fabricated texts, including using fake endorsements by public figures.

NETWORK ANALYSIS

- Accounts with little activity that rarely interact with users outside of their network.
- High interaction posts from low-activity accounts with incomplete profiles or minimal content history.
- Unusual high levels of likes, shares, or comments.
- Abnormal changes in follower count over short periods of time

Indicators of inauthenticity

BEHAVIOURAL ANALYSIS

- Account activity suddenly resumed after a long period (dormant accounts).
- Proof that account has been hijacked for the campaign.

IDENTITY ANALYSIS

- Lack of personalisation: generic profiles with minimal personal information.
- Profile names with random strings of letters and numbers

AUTOMATION ANALYSIS

- Bot behaviour - unusually rapid engagement

VISUALS ANALYSIS

- Visual theft
- Simultaneous profile pictures updates across multiple accounts
- Spoofed, fabricated AI-generated visuals

METADATA ANALYSIS

- Activity from IP ranges associated with VPNs or proxies
- Sudden spikes in API requests that far exceed normal patterns
- Some IP geographic locations could indicate bot farms

Source assessment branch

- Attribution is challenging and difficult:
    - Lack of data access
    - The AI challenge
- Tracking the source requires a multi-faceted approach

Source tracking

NETWORK ANALYSIS

- Identify primary spreaders and main amplifiers, often those with extensive connections or interactions
- Accounts engaging first are often linked to campaign origin
- Cross-platform activity can multiply leads

METADATA ANALYSIS

- Monitor IP addresses, user agents, timestamps, request details
- Track the geographical distribution of API requests to identify physical locations
- Metadata analysis of images, videos, links

CONTENT ANALYSIS

- Parsing content to identify involved parties within context

IDENTITY ANALYSIS

- Account registration details sharing a common source
- Repeat offenders may be documented in fact-checking databases or open-source archives

VISUALS ANALYSIS

- Background or profile images may offer source clues (faces, places)

Distribution and Impact assessment branch

- It is not only about impact but also **distribution**
- The main purpose of a CIB network is to **amplify content mainly through fake means.** AI-based technologies represent a challenge in this field.
- **Exploring the distribution** helps learning more about the CIB and **its impact**

Distribution and impact tracking

BEHAVIOURAL ANALYSIS

- Peripheral accounts amplifying the content of the core account(s)
- Accounts having specific roles in the amplification process.

CONTENT ANALYSIS

- Extreme content polarisation
- Evaluate if campaign content targets a global audience or specific regions to gauge its reach

NETWORK ANALYSIS

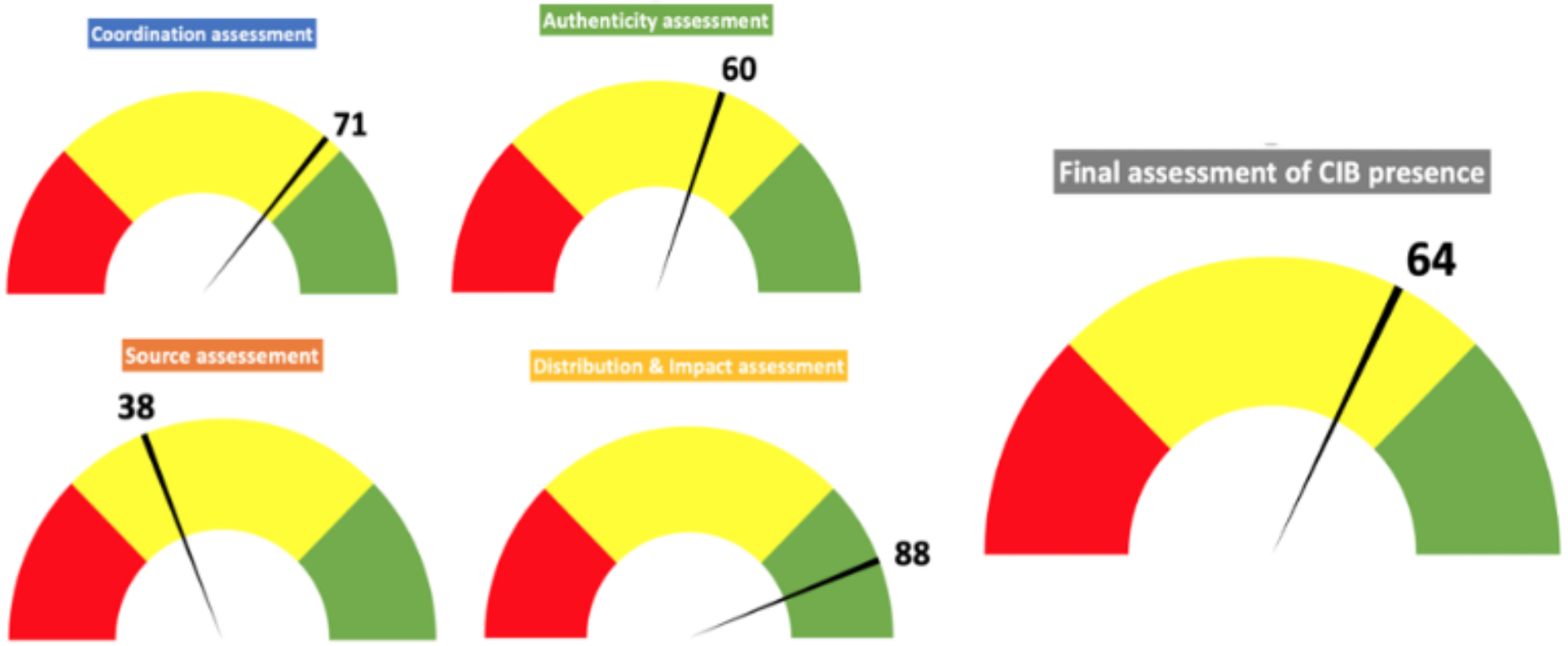
- Unusual volumes of likes or reshares
- Media amplification
- Public figures/influencers amplification
- Various methods from sentiment analysis to tracking trending hashtags
- Track backlinks
- Use multiple social media platforms to maximise outreach
- Only certain viewpoints are amplified. Dissenting opinions

From framework to fieldwork: Visual CIB assessment

- 50 indicators across branches coordination, authenticity, source, impact
- Generates a CIB likelihood score (0–100%)
- Results shown via 5 colour-coded gauges
- Designed for clarity and non-expert use
- Methodology applied to three published disinfo investigations:

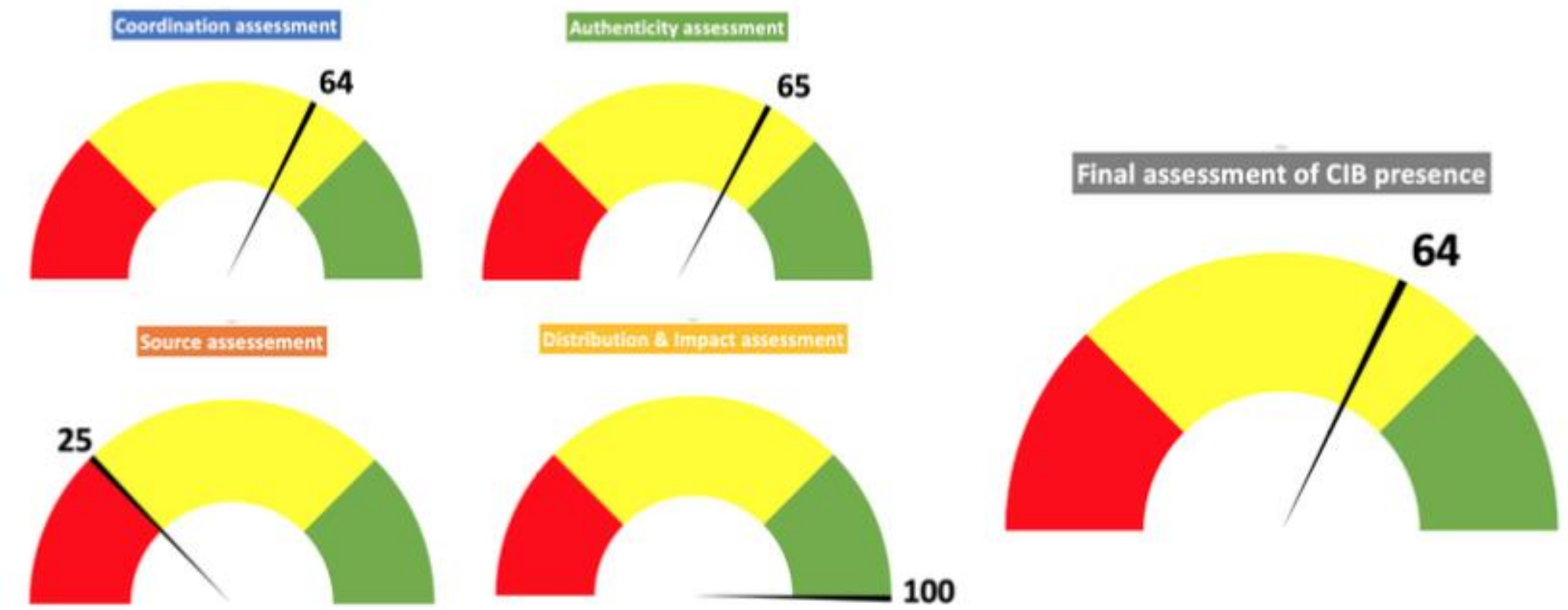
Case study 1

CheckFirst's Operation Overload Medium-high likelihood of CIB



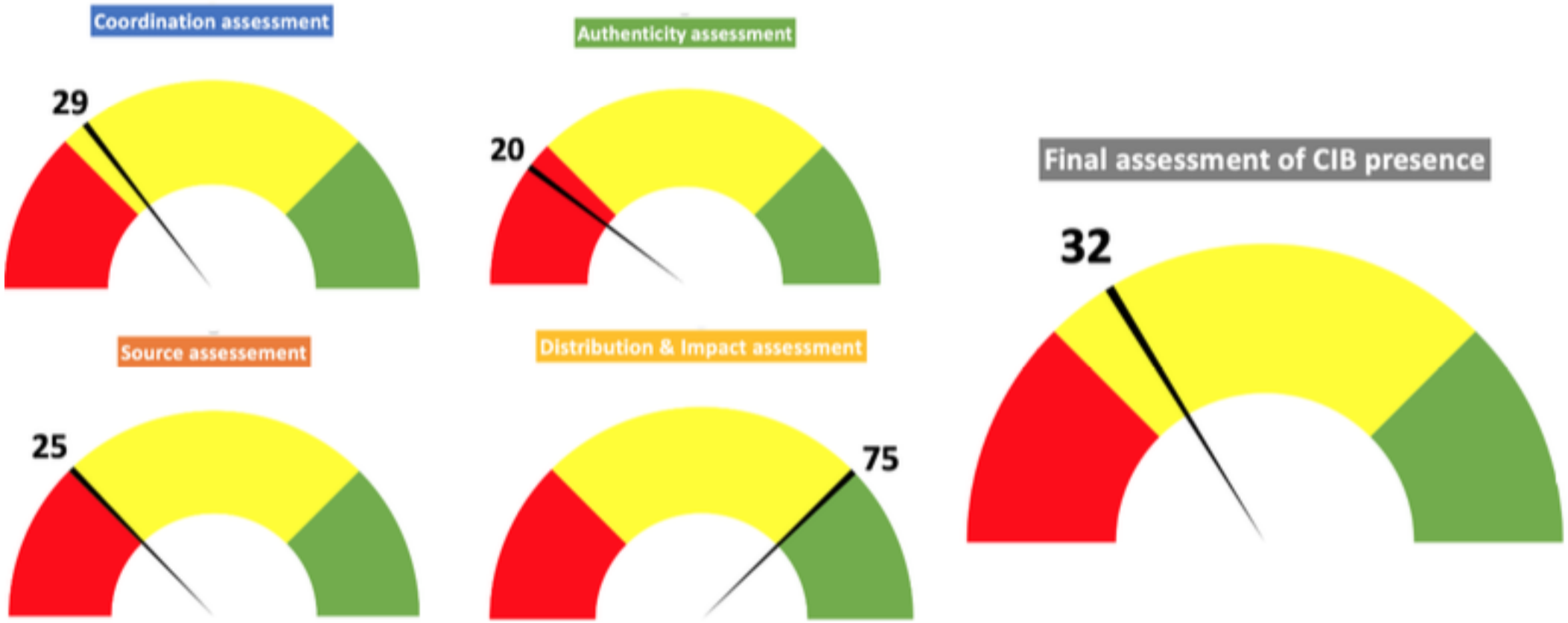
Case study 2

DFRLab & BBC Verify's TikTok Influence Operation **Medium-high likelihood of CIB**



Case study 3

QAnon's "Save the Children" campaign **Medium-low likelihood of CIB**



Conclusions

- CIB is widely recognized but…
    - Definition is still left up to individual platforms
    - The EU regulation lacks a specific one
    - EU DisinfloLab proposes a comprehensive, generally applicable definition
- Absence of specific platform mechanisms to report CIB
- There is not a single feature that can definitively prove CIB, but a combination of several indicators to be carefully evaluated
- AI: enemy & ally
- Our CIB visual assessment offers a transparent framework for identifying likely CIB and bridges the gap between qualitative analysis and quantifiable evidence.
- We **welcome feedback** and suggestions to refine the **CIB detection tree** and **CIB vsual assessment**

Thank you

Do you have any questions?

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