

# **Second UNCTAD Illicit Trade Forum**

*6<sup>th</sup> to 7<sup>th</sup> September 2022  
Room XVII, Palais des Nations, Geneva*

## **Case Study: How innovative technology has been used to influence consumer demand for goods traded illicitly in online marketplaces**

Contribution  
by

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The views expressed are those of the author and do not necessarily reflect the views of UNCTAD

## Case study: How innovative technology has been used to influence consumer demand for goods traded illicitly in online marketplaces

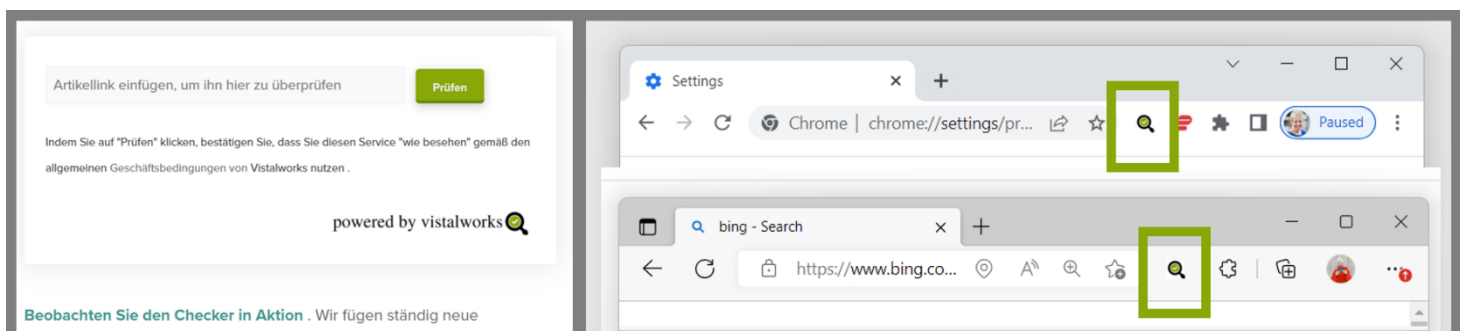
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Date: 25/08/2022

### Vistalworks' approach

Vistalworks formed after winning a 2018 Scottish Government CivTech<sup>i</sup> innovation challenge seeking technology to reduce consumer demand for illicitly traded goods online. This “prevent” type challenge was set by enforcement agencies Police Scotland, Trading Standards Scotland and HMRC, who realised that targeting the supply-side alone could not sufficiently reduce growing global volumes of online illegal trade and financial flows, and the associated social harms and costs.

From the outset, Vistalworks focussed on illicit trade in its broadest sense, including dangerous, banned, restricted, counterfeit, fake and smuggled goods. All three co-founders had extensive commercial experience in data technologies and analytics, including risk scoring, financial services, cyber security and predictive analytics. Part of the innovation in their initial proposed solution was to gather and model data and to create risk profiles of demand and selling, as well as supply – and attempt to join the dots in patterns of illicit trading that no one had seen before.

As there is no master database and pattern profile of illicitly traded products by jurisdiction, Vistalworks created this from scratch for every product/regulatory category that they risk scored. Vistalworks generated all querying scripts, risk scoring, matching, cross referencing, internal databases and user interfaces. Data was sourced from Vistalworks generated crawls (where permissible), negotiated API access, public datasets like the RAPEX product safety database, the CITES list, and UK and EU regulatory datasets.



*Browser plugins & checker tools*

Data capture tools and associated data modelling processes scored the likelihood of risk, and generated messages tailored to express risk in terms of relatable consumer harm. These real-time, consumer facing alerts were generated by Microsoft Edge and Chrome Browser plugins, and a standalone checker widget that could be embedded into consumer protection agency web pages, to enable consumers to make informed purchase choices. These tools were (and continue to be) available to official entities, like consumer protection agencies and regulators. The carefully tailored alerts highlight the possibility (not actuality) of risk and deliver associated advisory warnings. In some instances, the messages were served at page/product listing level, in others at an entire product category level (such as live animals and illegal streaming services).

High risk results were logged (with no information about the potential buyer captured) for further exploration in a separate intelligence service used by enforcement agencies. Although originally developed specifically for this challenge, the technology has been found to have multiple enforcement and intelligence applications that can be used cross-border and in multiple jurisdictions, and which can readily be extended to other languages, geographies and structured datasets (subject to Vistalworks' localised research, analytics and scoring process). All matching and risk scoring processes are Vistalworks' proprietary IP.

### Initial focus of efforts

As part of the initial research to scope a prioritised technical solution, a series of face to face focus groups were conducted in Scotland<sup>ii</sup>, with representative communities of consumers who had some experience of online shopping. A consistent theme to emerge across these research groups was that early in the session people would ask “what’s the harm in a bargain?” – in some cases they would express a sense of satisfaction that they have made a smart saving, others would express buying potentially illicit goods as an act of defiance against rip-off brands and retailers.

The focus group leaders then ran a series of exercises that challenged the participants to think about what is the worst that could happen when buying illicit goods. Again, a consistent theme was that once this was considered and discussed, and people realised their family, health, home and financial security was at a risk, then rising sense of outrage emerged in the groups, and participants asked: “why is this allowed to happen?” and “why is no one stopping this?”.

In most categories of goods, consumers had little awareness that illicitly traded products were available, or of the safety implications of buying them. They also consistently believed that online marketplaces were responsible for the safety and standards of the products sold, with close to 100% of focus group participants were unaware that when offering goods sold by third parties, it was the seller not the platform that they were interacting with.

Vistalworks initial data analysis and software development activities focused on producing alert messages to consumers via the browser plugins and checker tools that addressed these points, and provided enough basic information for the buyer to make a more informed decision on whether to proceed.

As a result, the alerting initially focussed on high consumer harm illicit trade categories like toys, medicines, batteries, cosmetics, and baby products. In response to the first wave of Covid-19, additional high risk product categories were quickly scored and alerts developed, including fake tests, sanitisers, masks and PPE, and shortage products. In subsequent years, and following additional Innovate UK<sup>iii</sup> R&D funding, Vistalworks has extended their profiling scope to include further high harm, high volume, high SDG negative impact product categories like pesticides, fertilizers, F-Gases/HFCs and chemicals.

### Exclusions and constraints

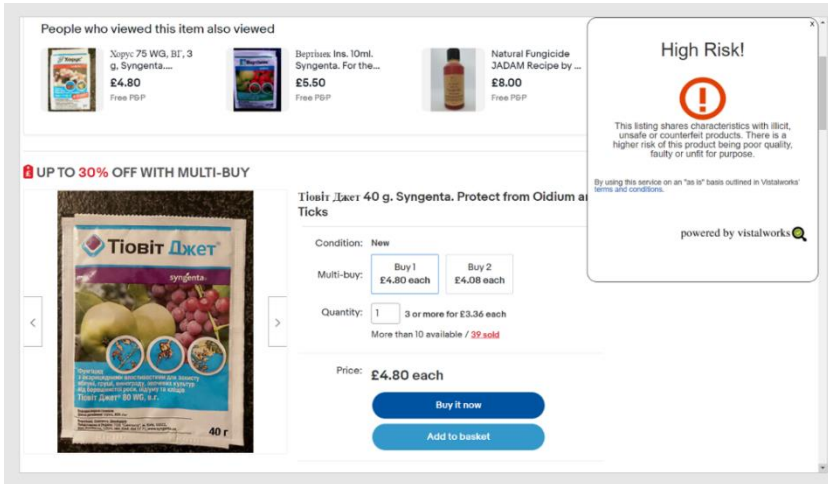
It was agreed with enforcement stakeholders from the project outset that this approach would apply to mainstream public ecommerce websites, marketplaces and selling platforms only, and not the dark web.

This project was not targeting deliberate criminality on part of the buyer, instead it was driven by consumer protection objectives, and to prevent harm and exploitation of unaware buyers.

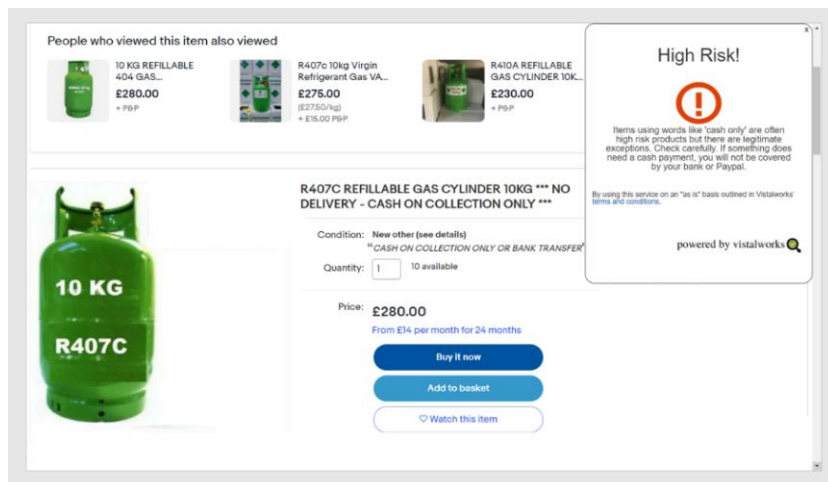
As the initial funding came from the Scottish Government and public bodies, and the UK public funding

sources, Vistalworks concentrated on the UK and EU regulatory environment. Work was initially UK jurisdictions and English language only, though has been extended into other jurisdictions and languages.

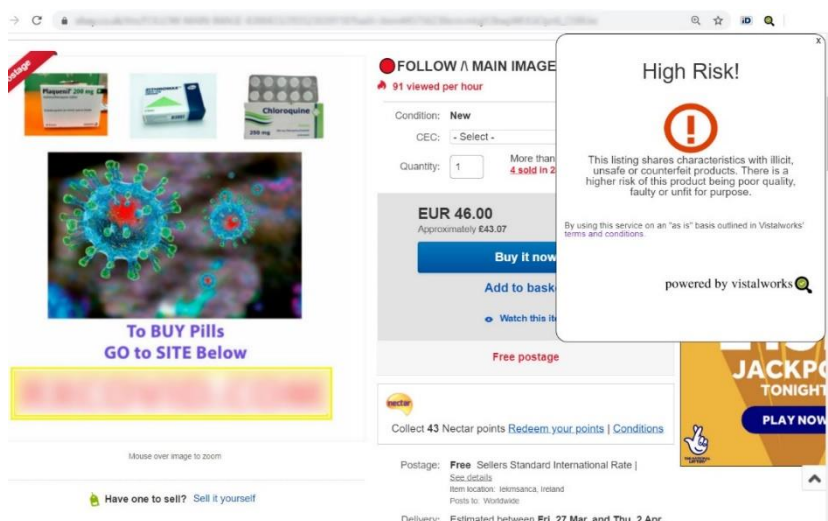
## Output and real example results



**Ecommerce marketplace example 1.** Alert and tailored warning triggered on an illicit pesticide listing. Product information suggests it is likely counterfeit + even if genuine, this product variant is not permitted for sale or import into the EU.



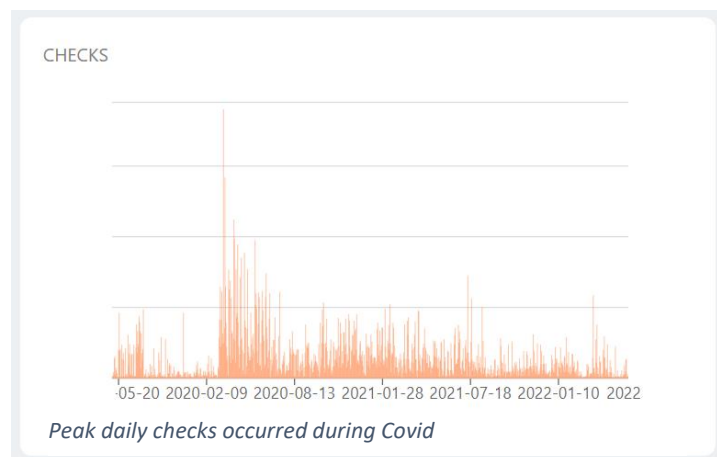
**Ecommerce marketplace example 2.** Alert and “cash only” warning triggered on a likely illicit F-Gas canister. While there are also specific warnings related to HFCs and F-Gases, typically cash only risk messaging is prioritised to protect buyers.



**Ecommerce marketplace example 3.** Illicit seller leveraging a legitimate platform to channel buyers offsite and onto an illegal online medicines website. Off-platform transactions (directing consumers from a legitimate platform to another website, mobile messaging service or social media application) are a common high risk selling behaviour.

## Usage and impact

The browser and widget based checker tools built specifically for this challenge generated 26,000 in-jurisdiction checks by shoppers on £3.7million of goods, and highlighted 3,600 high-risk sellers, with indicators of organised criminal trading operations. The alerting based approach to warning consumer of potential risk has been proven particularly effective (according to the parameters initially agreed with stakeholders) in product areas where buyers are under-informed, facing shortages, or moving to online purchasing of that product type for the first time. During Covid-19, illicitly traded goods moved almost entirely online in the UK, and consumer usage of the checker tools tracked closely to this newly perceived risk. Vistalworks technology also attracted significant attention in the UK media, including being featured on the front page of the BBC News website, and this corresponded with peak levels of daily checks by shoppers.



However, alerting and demand reduction more generally is likely to be ineffective in product and regulatory areas where there is high shame, accepted illegality, and/or high complicity on part of buyer. This specifically includes tobacco, weapons, drugs, IPTV and streaming services, certain industrial products, and also extends to certain categories of diet pills, and personal/sexual/physical enhancement and health products.

The original challenge stakeholders continue to work together with Vistalworks to reduce illicit trade online. Aspects of the methodologies and technologies developed by Vistalworks for the stakeholders of this challenge have enforcement and intelligence applications that have been evolved into other products and services that support national, cross-border and international efforts in tackling the harm of illicit trade.

**For further information, or in the case of authorised enforcement agencies a demonstration, please contact:** Vicky Brock, CEO, Vistalworks [vicky@vistalworks.com](mailto:vicky@vistalworks.com), <https://vistalworks.com>

<sup>i</sup> <https://www.civtech.scot/portfolio>

<sup>ii</sup> Focus groups were conducted by Get Market Fit in Scotland between November 2018 and February 2019.

<sup>iii</sup> Innovate UK is the UK's national innovation agency <https://www.ukri.org/councils/innovate-uk/>