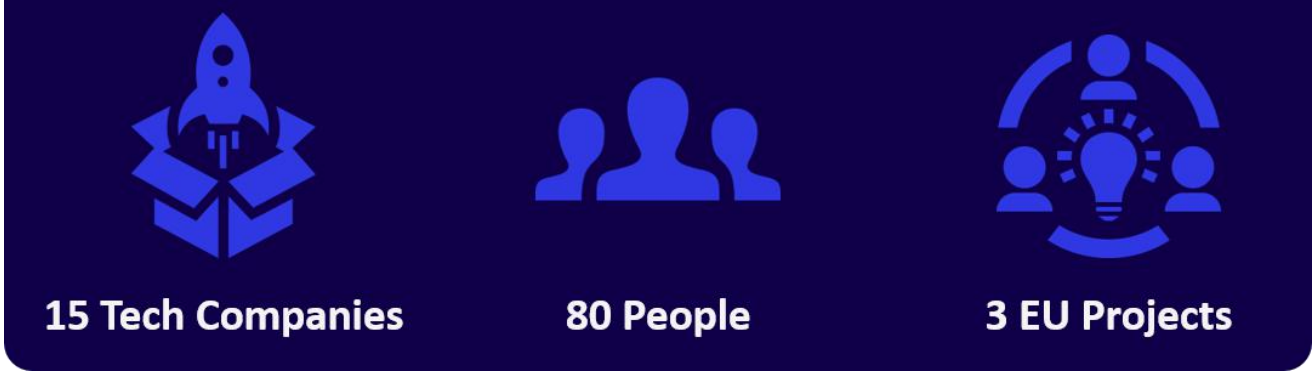
5th November, Strand Hilton Hotel, Helsinki, Finland

i-LEAD Industry Days

Event Overview

The Innovation – Law Enforcement Agencies' Dialogue (i-LEAD) project organised "i-LEAD Industry Days" that took place in Helsinki on 5th November 2019. Find out more about i-LEAD here.

i-LEAD Industry Days 1st Edition



The goal of Industry Days was to showcase useful and innovative technologies to Law Enforcement Agencies and Industry.

Focus Areas

- Open Source Intelligence (OSINT) Tools
- Police Vehicles
- Drones
- Facial Recognition Systems
- Applications for intelligence analysis focusing on artificial intelligence
- Rapid DNA – Faster Results
- Video Management

This project has received funding from the European Union's Horizon 2020 - Research and Innovation Framework Programme, H2020-SEC-2016-2017-1, under grant agreement no 740685

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Executive Summary

The Innovation – Law Enforcement Agencies' Dialogue (i-LEAD) project, consists of a network of police forces and related specialists, funded by the European Commission under the Horizon 2020 Programme.

It belongs to a group of Coordination and Support Actions projects.

i-LEAD organised "**i-LEAD Industry Days**" to obtain results of the technologies and innovative solutions available to Law Enforcement Agencies. During the event, technologies and innovative solutions related to the scope and objectives of i-LEAD were presented by industry representatives and specialists.

The purpose of this report is to summarise the rationale behind the event, the methodologies used in its organisation, the key lessons learned and finally, the next steps that will be taken by i-LEAD to build on the initiative.

Event Rationale

The overarching goal of i-LEAD, is to **build connections between industry, technology experts and LEAs**. This will help to develop strong communicative networks that encourage a continued dialogue for innovation, procurement and improvement initiatives. Industry Days was designed to support this approach.

The event was created to support the output of the Practitioner Workshop Report (PWR) from 2018. The PWR identified numerous gaps and opportunities for improvements in the technology used by Law Enforcement.

Work package 3 (WP3) of the i-LEAD project, is dedicated to monitoring research and innovation related to security technology solutions. This group was responsible for the work involved in organising and preparing Industry Days.

Each of the technologies monitored by WP3 relates to specific streams of Law Enforcement, and were categorised as:

- Open Source Intelligence (OSINT) Tools
- Police Vehicles
- Drones
- Facial Recognition Systems
- Online Speech Translation Tool for Different Languages
- Rapid DNA - Faster Results
- Body Fluids - Automating the Stain Search

A full specification of Law Enforcement Agencies' needs, and the requirements for specific topics can be found in the PWR, which is available **here.**

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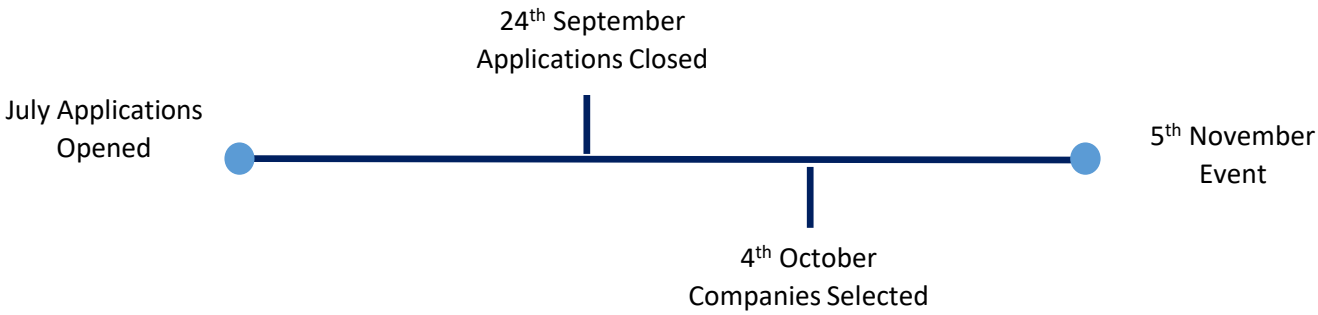
Event Methodology

The origin of the event came from internal discussions between work package leaders and the coordinator within the i-LEAD project. Together, the decision was made that 'Industry Days' would take place in 2019 and organised to coincide with the Security Research Event in Helsinki. Combining these two events increased the value for the attendees.

i-LEAD Timeline



A formal concept for the event was designed and published to the public in July 2019. The document aimed to outline the purpose of the event and to motivate interested Technology Partners to apply for a presentation slot at the meeting. Each of the law enforcement streams on the previous page were addressed.

Numerous applications were received from technology companies throughout Europe and one in the United Stated.

The applications were assessed by i-LEAD partners responsible for the specific Practitioner Groups. Namely:

- **Front Line Policing**
  - Drones
  - Police Vehicles
  - Facial Recognition
- **Cross Border Crime**
  - Online Speech Translation Tool
- **General Crime**
  - Intelligence Analysis Tools
  - Optical Character Recognition Tools
- **Forensics**
  - Rapid DNA Testing
  - Bodily Fluids Testing – Automating Stain Searches

The experts completed their evaluations based on a simple assessment structure, scoring each area on a scale of 1-5 – the companies with the highest scores were invited to participate in the event.

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From the applications received, 15 technology companies were selected to attend the event.

The technologies represented most of the target areas but some of the desired topics were not adequately covered.

The categories included:

- **OSINT**
- **Intelligence Analysis**
- **Facial Recognition**
- **Drones**
- **Rapid DNA Testing**
- **Police Vehicles**
- **Video Management**

i-LEAD Industry Days strived to be different from other events. Providing a smaller number of technology providers extended, dedicated opportunities to explain their product's unique value points in depth. Deeper engagement allowed for more useful discussion. Meaning the presenters got to the core of the technology. This approach also provided ample opportunity to ask questions during each session.

To take this one stage further, Industry Days provided each technology company with a small exhibition area. Consequently, the audience could spend additional time between presentations having one-on-one time with tech companies - if needed.

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As an additional value, a decision was made by the consortium to invite several EU projects to participate in the event. Industry Days allowed the participants of the projects to engage in the presentations. To enable them to provide an overview of their projects, which could have been of interest to other attendees, they each had a short presentation slot.

This was seen as an additional value; but given the duration of the event and the volume of presentations throughout the day, it could be considered as an unnecessary addition. This will be reviewed for the following editions of Industry Days.

Event Agenda

The Innovation – Law Enforcement Agencies Dialogue (i-LEAD) project is organizing "i-LEAD Industry Days" taking place in Helsinki on 5th November 2019. Find out more about i-LEAD here.

i-LEAD Industry Days

08:00 – 09:00	Collect your event badge, grab breakfast and take the opportunity to network.					
09:00 – 09:30	An introduction from the i-LEAD Industry Days team.					
09:30 – 11:30	Exhibition Room: 10:30 – 10:50 Cockpit Overview	Room 1 OSINT: Kivu Tech P.1 / Kivu Tech P.2	Room 2 Intelligence Analysis: DataWalk P.1 / DataWalk P.2	Room 3 Facial Recognition: Videmo P.1 / Videmo P.2	Room 4 Drones: Insta P.1 / Insta P.2	Room 5 Rapid DNA Testing: Thermo Fisher P.1 / Thermo Fisher P.2
11:30 – 13:30	Exhibition Room: 11:30 – 11:50 CERTH Overview	Room 1 OSINT: 4iQ P.1 / 4iQ P.2	Room 2 Intelligence Analysis: Visallo P.1 / Visallo P.2	Room 3 Facial Recognition: Secunet P.1 / Secunet P.2	Room 4 Drones: RumbleTools P.1 / RumbleTools P.2	Room 5 Rapid DNA Testing: ANDE P.1 / ANDE P.2
13:30 – 14:30	Lunch & Networking					
14:30 – 16:30	Exhibition Room: 14:30 – 14:50 RAMSES Overview	Room 1 OSINT: Sequentum P.1 / Sequentum P.2	Room 2 Intelligence Analysis: T3K-Forensics P.1 / T3K-Forensics P.2	Room 3 Facial Recognition: Ultinous P.1 / Ultinous P.2	Room 4 Drones: eCapture3d P.1 / eCapture3d P.2	Room 5 Police Vehicles: Elettronica P.1 / Elettronica P.2
16:30 – 17:00	A short summary session to conclude the event.					

The overview of the full agenda can be viewed here.

Besides the technology presentations, three separate EU funded projects took part in the event.

1. COPKIT
2. MKLab CERTH
3. RAMSES

Each provided a short presentation of their projects. These initiatives are also closely related to the subject matters of i-LEAD; therefore, they offered additional value on top of the technical presentations.

In the following pages, one can read an overview provided by the technology companies present at Industry Days. Moreover, a short summary of each EU project.

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Tech Presenters

Kivu Technologies GmbH

Focus Area: OSINT

Website: http://kivu.tech/

KIVU provides a highly scalable network analysis platform helping analysts in the security domain fight organised crime, terrorism, cybercrime and fraud. The software is a one-stop-shop solution from OSINT data collection via web crawlers and database connectors; to storage in our high-performance graph database, finally visualisation and analysis via our intuitive user interface.

The technology was specially designed for law enforcement and intelligence agencies to counter organised crime. It serves the use-cases of OSINT and SOCMINT, but users can also import their data such as; CDR, E-Mail Data, TCP/IP network data, etc. The tool itself is data agnostic, meaning, if the data includes relationships/connections in some form, it can be analysed by the software.

KIVU – A Network Analysis Platform Democratizing Data Science

4iQ

Focus Area: OSINT

Website: https://4iq.com/

4iQ are intelligence community analysts, InfoSec pioneers and tech entrepreneurs with a single mission: To empower intel analysts, security researchers, and criminal investigators discover, uncover, disrupt adversaries to prevent cybercrime and cyber-espionage.

A unified intelligence platform can enable a complete intel lifecycle – 4iQ provides this for its customers.

4iQ – IDLake

4iQ – IDTHEFT

4iQ – IDHUNT Core Datasheet

4iQ – IDHUNT ENTERPRISE Solution Brochure

Sequentum

Focus Area: OSINT

Website: www.sequentum.com

Sequentum offers reliable enterprise-grade OSINT web data collection software for large scale web scraping operations that depend on high-quality data feeds for their internal research and AI decision systems.

Enterprise-grade OSINT web data collection platform that sits in the windows security context, runs on premise or in the cloud, used to collect web data, whether from social media, news, blogs, or other OSINT sources.

Tech Presenters

Focus Area: Intelligence Analysis

Website: https://datawalk.com/

DataWalk

DataWalk SA is a Poland-based high-tech company focused on the development and sale of enterprise-class commercial off-the-shelf IT products (COTS) in the link-based analytics area for law enforcement, intelligence, and insurance.

DataWalk is an intelligence platform for revealing patterns, relationships, and anomalies for large-scale, multisource data analysis. Using a massively scalable big-data engine combined with user-friendly visual interfaces, DataWalk eliminates the restrictions of data silos, allowing law enforcement agencies to import, and rapidly blend and analyse data from multiple sources.

- DataWalk – Next Generation Big Data Platform For Fighting Against Cyber Crimes
- DataWalk – 1/2 Next-generation analytics platform for intelligence-led decision making
- DataWalk – 2/2 Next-generation analytics platform for intelligence-led decision making
- DataWalk – Introduction to Open-Source Intelligence Tools

Focus Area: Intelligence Analysis

Website: http://www.t3k-forensics.com/en/

T3K-Forensics

T3K-Forensics (T3K) is an Austrian based, Business-to-Government focused technology company that specializes in forensic services and software development. From 2015 we focused on developing customized analytic solutions for law enforcement, immigration authorities and other governmental agencies.

T3K's Law Enforcement Analytical Platform (LEAP) is an operative software developed by T3K-Forensics for law enforcement and immigration authorities in need of a solution for quick investigations at specific hot spots using mobile devices such as smartphones and tablets.

- T3K-Forensics – LEAP Report
- T3K-Forensics – Artificial intelligence in mobile forensics
- T3K-Forensics – Folder
- T3K-Forensics – LEAP Border Security
- T3K-Forensics – LEAP – Child Sexual Abuse (CSA)
- T3K-Forensics – LEAP – Law Enforcement Analytical Platform
- T3K-Forensics – Mobile forensics trainings

Tech Presenters

Videmo

Focus Area: Facial Recognition

Website: https://videmo.de/en

An innovative company in the area of automatic video analysis. Over the years, we have grown to become one of the leading providers of facial recognition solutions in the security space.

Videmo 360 is the ideal tool for analysing your video data. In the case of large amounts of video material from various sources, investigators are often overwhelmed, since conventional software does not provide support for the efficient elucidation of incidents. Thus, for every suspicion, many hours of video material must be manually searched through. The use of Videmo 360 drastically reduces this work.

Videmo – Company and Product Overview

Videmo – Videmo 360 All-in-one

Ultinous

Focus Area: Facial Recognition

Website: www.ultinous.com

Ultinous develops ground-breaking AI technology capable of generating previously unseen analytics, metrics and real-time, predictive alerts from live video feeds. Using state-of-the-art facial recognition and tracking, the Ultinous Platform has multiple applications in different industries such as security, retail and online services.

Our Facial Recognition is based on Ai and deep learning algorithms. approx. 10 million faces have been trained in our model and have very high accuracy and speed.

Secunet

Focus Area: Facial Recognition

Website: www.secunet.com

At secunet, an increasing number of more than 600 it-security experts focus on topics such as cryptography, e-government, business security and automotive security. The services range from analysis to consulting, conception, development and integration of software and hardware solutions to training and support.

Secunet bocoa is an intuitive identity check application on a mobile device that provides police officers with a detailed overview of relevant results from captured fingerprints, facial images as well as visual and electronic document inspection.

Secunet – Bocoa Presentation

Secunet – Bocoa Description

Tech Presenters

Insta

Focus Area: Drones

Website: https://www.insta.fi/

Insta helps to create a safe and competitive society. Insta is an expert in; industrial automation, industrial digitalisation, cybersecurity and defence technologies. Insta helps customers develop and maintain their performance and profitability. Insta serves customers in demanding fields by providing them with innovative technology and service solutions.

Insta Blue Aware product family provides a secure way for distributing location data, and video feeds related to Drone operations to all participants (Military, Police, Fire & Rescue, Customs and Border Control). The platform enables adding of analysis, artificial intelligence and augmented reality features to enhance the data and video streams.

- **Insta – Insta Blue Aware**
- **Insta – Company Brief**
- **Overview Video**

Rumble Tools

Focus Area: Drones

Website: www.rumbletools.fi

RumbleTools is a high technology company located in Imatra, Finland. The core competence is the automation of processes through robotics and software development. Rumble has developed an Automated Industrial Drone Platform for the diverse needs of industrial sites. The most unique part of our solution is the docking station, which enables that the flying robot drones can operate 24/7 autonomously.

Fully automated mobile docking station with drones. This system consists of DD Docking Station installation in the top of the vehicle, Double Rumble Bee drones with a flight time of 20 minutes, when one of the drones is in mission, the other drone is charging, this allows a 24/7 operation.

- **Rumble Tools – Nr1 Builder of Drone Docking Stations with Advanced AI Software for Totally Autonomous Drone Control**
- **Rumble Tools – Unmanned Systems**

Tech Presenters

eCapture3d

Focus Area: Drones

Website: www.ecapture3d.com

eCapture has developed and commercialized a Web platform (www.eyescloud3d.com) where any user can make 3d models, in a short time, using from photos or videos taking by his smartphone, reflex-camera, drones.

These 3d models can take real measurements, add georeferences, insert notes, embed them in a website and download 3d models to several formats included STL to 3D printer. When people make 3D models of an existing situation, they can use either a laser scanner, a Photogrammetry software, or make it done by computer software. All these techniques are expensive or they need to hire a specialist in 3D modelling. That's the reason why people without 3D modelling knowledge don't generate 3d model, in addition the process to get the 3D models is very long.

eCapture – 1/2 Company Presentation

eCapture – 2/2 Company Presentation

Thermo Fisher

Focus Area: Rapid DNA

Website: www.thermoscientific.com/rapidDNA

Through an Applied Bio-systems portfolio, Thermo Fisher Scientific is the world leader for over 20 years in providing superior solutions for human identification (HID). Our comprehensive, validated products, expertise and application support, are in most of the HID laboratories across the world. Furthermore, we are the only company that designs and validates reagents, instruments, and data analysis software as a complete, integrated system for forensic Customers.

We are not just a product supplied through our commercial operations team. Through professional validation services, and the forensic science application specialists, we offer local, personal support with extensive knowledge for an in-depth experience.

ThermoFisher – RapidHIT ID System for Law Enforcement

Tech Presenters

Focus Area: Rapid DNA

Website: www.ande.com

ANDE

ANDE is the global leader for mobile Rapid-DNA certified by the FBI and already deployed around the world and EU. The platform is a fully automated DNA solution providing non-technical operators with a full DNA Profile from both reference samples and crimes scenes in under 90 minutes (106 for crime scene).

ANDE holds a number of approvals and accreditations around the world; including an ISO17025 in the EU and NDIS within the United States. This has allowed agencies and Governments to deploy ANDE as a real-time tool for criminal investigations, border management and National Database development.

- .pdf **ANDE – Rapid DNA for a safer world**
- .pdf **ANDE – Rapid DNA brochure**
- .pdf **ANDE – Rapid DNA system approved by the FBI**
- www. **ANDE Rapid DNA Identification - Commitment Award - Video**
- www. **Rapid DNA tech helps ID victim in less than 2 hours - Video**
- www. **Rapid DNA Identification Demo - Video**

Focus Area: Police Vehicles

Website: www.elettronica.de

Elettronica

Elettronica GmbH solutions are based on an integration architecture with reusable components. The architecture allows control directly via the automobile bus (Can-Bus) as well as via a control software. The individual sensors can be operated; data can be acquired, processed and overlapped or merged across the sensor boundary. The aim is to support the user as much as possible in the operation and information gain.

The technology can be used for all sensor scenarios. An example is a system of drone detection, plus you have the added value with the fusion of data.

Focus Area: Video Management

Website: https://www.nsion.fi

NSION

NSION is a major technology innovator in the growing sector of government related high security video and data management market. One of the biggest challenges is to optimize data security and speed in video data transferring in complex life critical field operations. NSION solves the problems with a unique high throughput platform, which enables integration of command and control systems to multiple different video production technologies.

- .pdf **NSC3: Media broadcasting and management solution**

PROJECT OVERVIEWS

COPKIT

Focus Area: OSINT

Website: https://copkit.eu/

COPKIT addresses the problem of analysing, preventing, investigating and mitigating the use of new information and communication technologies by organised crime and terrorist groups. These issues are crucial challenges for policy-makers and LEAs, due to the complexity of the phenomenon; causing a real VUCA world effect (volatility, uncertainty, complexity and ambiguity).

EUROPOL, who is involved in COPKIT as head of its Advisory Board, stated in its SOCTA 2017 report "Crime in the Age of Technology", "This is now, perhaps, the greatest challenge facing LEAs around the world".

COPKIT proposes an intelligence-led Early Warning (EW) / Early Action (EA) system directly related to the methodological approach used by EUROPOL in SOCTA. 18 European organisations from 13 countries, make up the consortium aiming to create a technological intelligence and knowledge ecosystem for LEAs, to fight OCT.

MKLab CERTH

Focus Area: AI technologies & next-generation

Website: https://mklab.iti.gr/

As the challenges faced by Law Enforcement exhibit significant diversity and increasing complexity, innovative solutions like Artificial Intelligence and deep learning approaches have the potential to lead to improvements in their operational capabilities.

Towards these objectives and through our involvement in several security-related H2020 projects (FCT, DRS, BES etc.), MKLab ITI-CERTH has researched and developed cutting-edge tools and services for increased situational awareness and advanced multimodal analytics. In particular, MKLab has developed Open-Source Intelligence discovery and Analysis Tools, Services for Intelligent IoT and Robotic Systems, Decision Support and Early Warning tools, as well as Computer Vision services, such as Visual Identification and Face Recognition.

Through MKLab's strong collaboration with relevant agencies across Europe, these services and tools aim at meeting their requirements, and delivering effective and efficient security solutions.

RAMSES

Focus Area: Internet Forensics

Website: https://ramses2020.eu/

RAMSES is an H2020 funded project, which aims to develop a holistic, intelligent, scalable, and modular platform for Law Enforcement Agencies (LEAs) to facilitate digital forensic investigations. The system extracts, analyses, links, and interprets information extracted from the internet relating to financially motivated malware. Focus areas are on two use cases: ransomware and banking trojans. RAMSES brings together the latest technologies in a software platform which integrates seven services:

OSINT service
Darknet service
Bitcoin tracker service
Banking Trojan analyser service
Ransomware classifier service
Multimedia forensic service
Malware intelligence service

Eleven partners from different European counties are involved in the RAMSES consortium. They include legal experts, LEAs, technical and scientific partners from both private and the public sector.

Lessons Learned & Next Steps

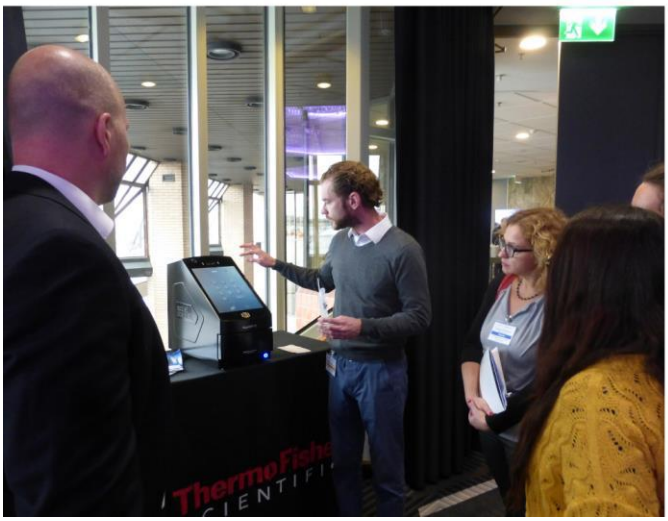
We realise that as a first edition, there are many improvements that can be made for the next Industry Days meeting.

The consortium intends to use the feedback given at the event, and the information collected via this online survey to help shape the next version of Industry Days, planned for 2020. (If you were at this year's event and haven't already submitted feedback – your input is warmly welcomed).

As stated, the event was an opportunity to initiate a dialogue. For relations to be strengthened and communication to be improved, it is imperative that the group remains in contact, and we expand the network of LEAs and technology specialists actively participating in i-LEAD and the connected events.

Therefore, we invite LEAs and project partners to help distribute and disseminate this report throughout the respective partners. We encourage everyone to join the i-LEAD LinkedIn group. Feel free to share comments, literature, information and knowledge that will be beneficial to the network.

If you are from a technology provider and have a solution that you also feel will be helpful, please e-mail steven.ormston@ppbw.pl.



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