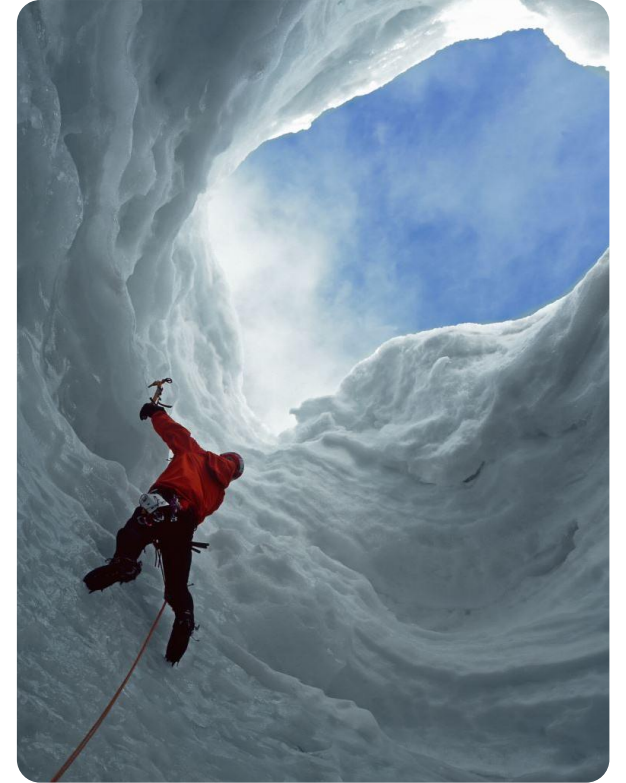


Questel

Freedom To Operate

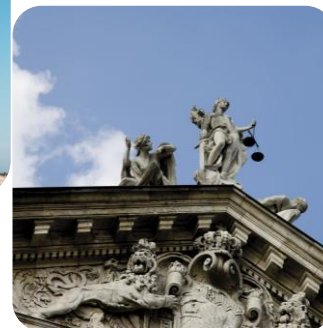
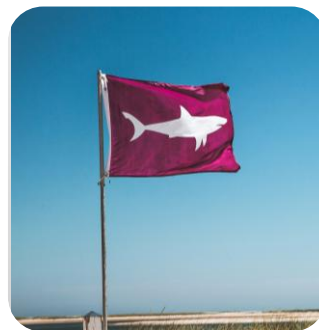
Learn how to leverage **Orbit Intelligence**'s latest AI capabilities to execute FTO searches to stay out of trouble.



Taking off like a tiger ...



... ending up as a bedside rug.



Commercializing a product can expose you to serious risk. This risk needs to be managed & minimized. A diligent FTO search could have prevented the disaster. Understanding which IP represents a threat allows mitigation.

Speaker



Jens Schlehahn 

Subject Matter Expert (SME)

Questel

jschlehahn@questel.com

Jens is a presales expert focusing on Questel's IPBI and P&P business units for the DACH market.

Prior to today's role, Jens spent four years in Questel's consulting division based in Grenoble. As a senior consultant for IP Strategy & Licensing Jens used Orbit Intelligence professionally daily and all day to support clients in understanding dynamic technology and competitive environments by exploiting patent data to the fullest.

Before joining Questel in 2018, Jens was involved in academic research projects and IP startups in the town of his alma mater, Kaiserslautern (Germany), which allows Jens to understand the realities of small and medium enterprises and their challenges in IP.

Jens graduated in 2017 in Business Administration and Mechanical Engineering with a M.Sc. specializing in Fluid Dynamics, Virtual Product Engineering and Intellectual Property.

FTO searches in Orbit Intelligence today

Commercializing a product might infringe on 3rd party IP. Freedom to operate searches help managing risks and gain strategic options.



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High stakes in FTO!

Fundamentals

Use case

AI in searching

Review with AI support

Basics

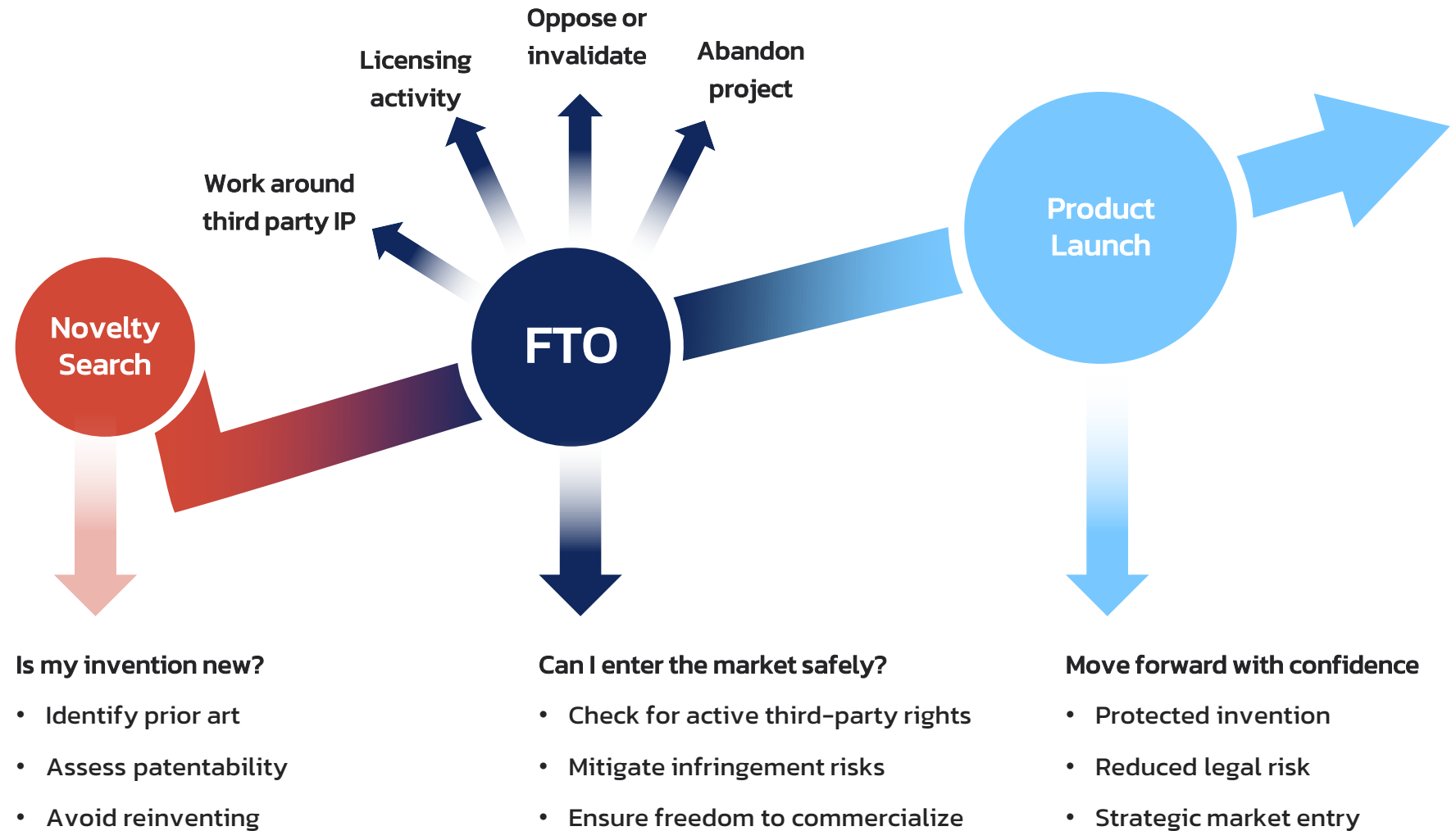
Q&A

FTO 101



Fundamentals first.

Use Case: Product development and FTO





Considerations for **FTO** searching



Big picture

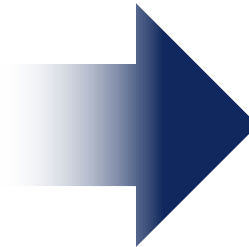
Initial broad search to define the overall area

Review prior art search results



Increasingly Focused

- Alive only
- Priority date
- Claims only
- Limit by jurisdictions



Two or more stepped process

General search to find the most patents in the area

Narrow it down to where the product is to be commercialized

Understand what can be used against
your product
in **your** market

Data coverage

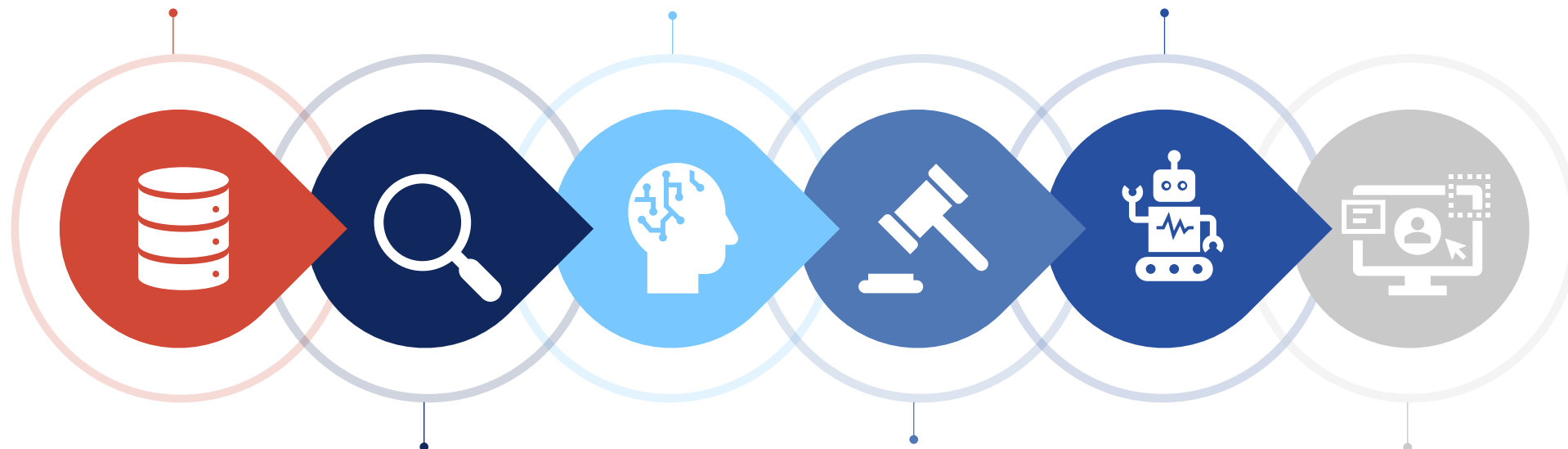
Worldwide coverage, translation quality

AI Search

Feature mapping, high recall, explainability

AI Review

Quickly identify key points



Search Capabilities

Keyword, classification, assignee,
legal status, measurement search,
chemistry, sequence searching, ...

Legal status information

Jurisdiction specific tracking,
accurate grant status, EP validations

Efficient workflow

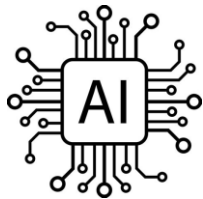
Optimized interface, collaboration,
integration into workflow



AI is just an engine,

it's how we implement it that will make the difference

Objectives



Innovation



Expertise



Meaning



Workflow



Ergonomics



Wisdom



ORBIT Intelligence

#1 IP Data Quality

Up-to-date and normalized
IP & NPL data

- 165M+ Patents, 110 patent-issuing authorities, single invention grouping
- Litigation, opposition, data licenses, standard essential patents, grant statistics
- AI enhanced and AI based searches, AI classifier
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- 100,000 users – 5,000 clients



Content as a
service API

A data-driven patent world

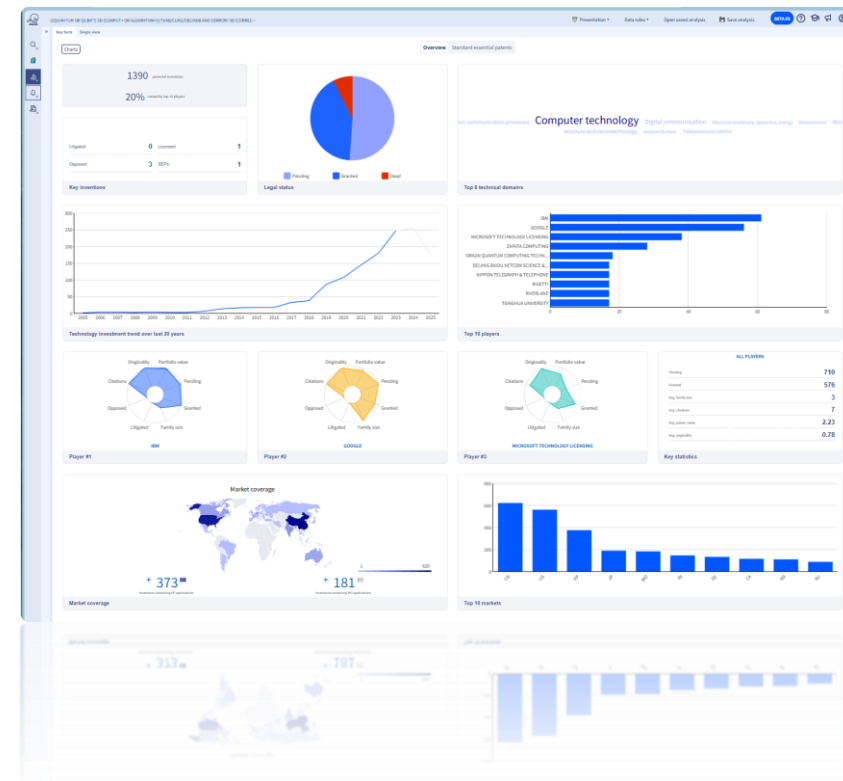
Every day, 8,000 patents are filed, and 1,000 scientific articles are published. You can't read everything, **but you can't miss anything!**

Our mission

Provide you with the best-in-class patent, design and NPL data, exploited by functions boosted by AI to be able to carry out all your patent searches, landscapes, benchmarks, patent watches and valuations

Next steps

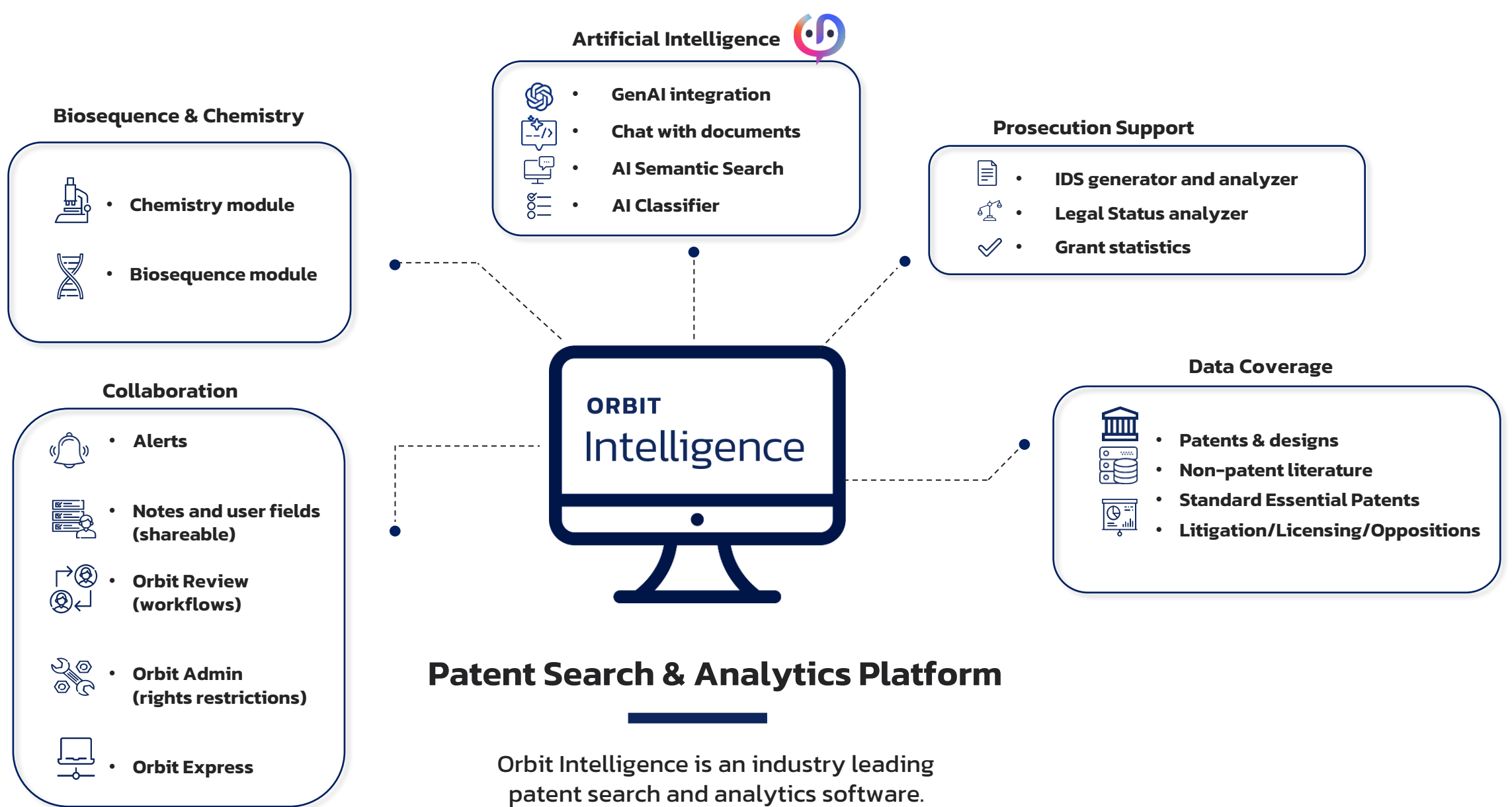
- Schedule an expert demo based
- Get your hands on the tool with a 2 weeks trial including kick-off training
- Receive a commercial offer



Data in Glance

74 full text
111+ biblio
77 industrial designs
60+ legal status

100k+ NPL
480M+ bio sequences
36M+ chemicals
155k+ Standards



Through one platform you can search, analyze, and collaborate on relevant data to drive actionable IP decisions.

ThermoStride Athletic Footwear



Breakdown

A unique athletic shoe

1. Outer liner or shell
2. Inner liner (removable)
3. Battery (removably in in the inner liner)
4. Heating element (in toe cap area)
5. Reflective film (reflecting heat inwards)
6. Temperature sensor

FTO

ThermoStride Athletic Footwear

FTO

Breakdown

A unique athletic shoe

1. Outer liner or shell
2. Inner liner (removable)
3. Battery (removably in in the inner liner)
4. Heating element (in toe cap area)
5. Reflective film (reflecting heat inwards)
6. Temperature sensor

Search
for

Broad heated footwear

- Heated boots
- Battery heated shoes
- ...

Toe-region heating

- Toe cap/box heating
- ...

Heat reflection

- Heat reflective foil
- Radiant barrier
- ...

Sensor controlled heating

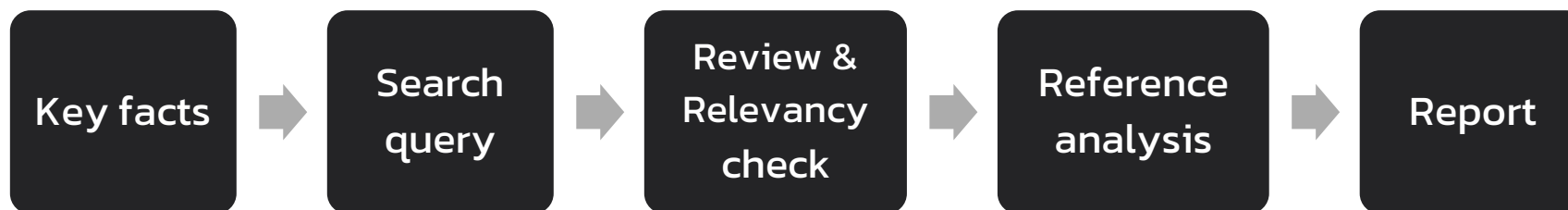
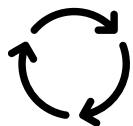
- Temperature feedback
- Thermistors in shoes
- Closed loop control



FTO searching augmented by **Sophia** features?



Traditional



AI Efficient



AI² Efficient





Sophia Query

Searching with AI support

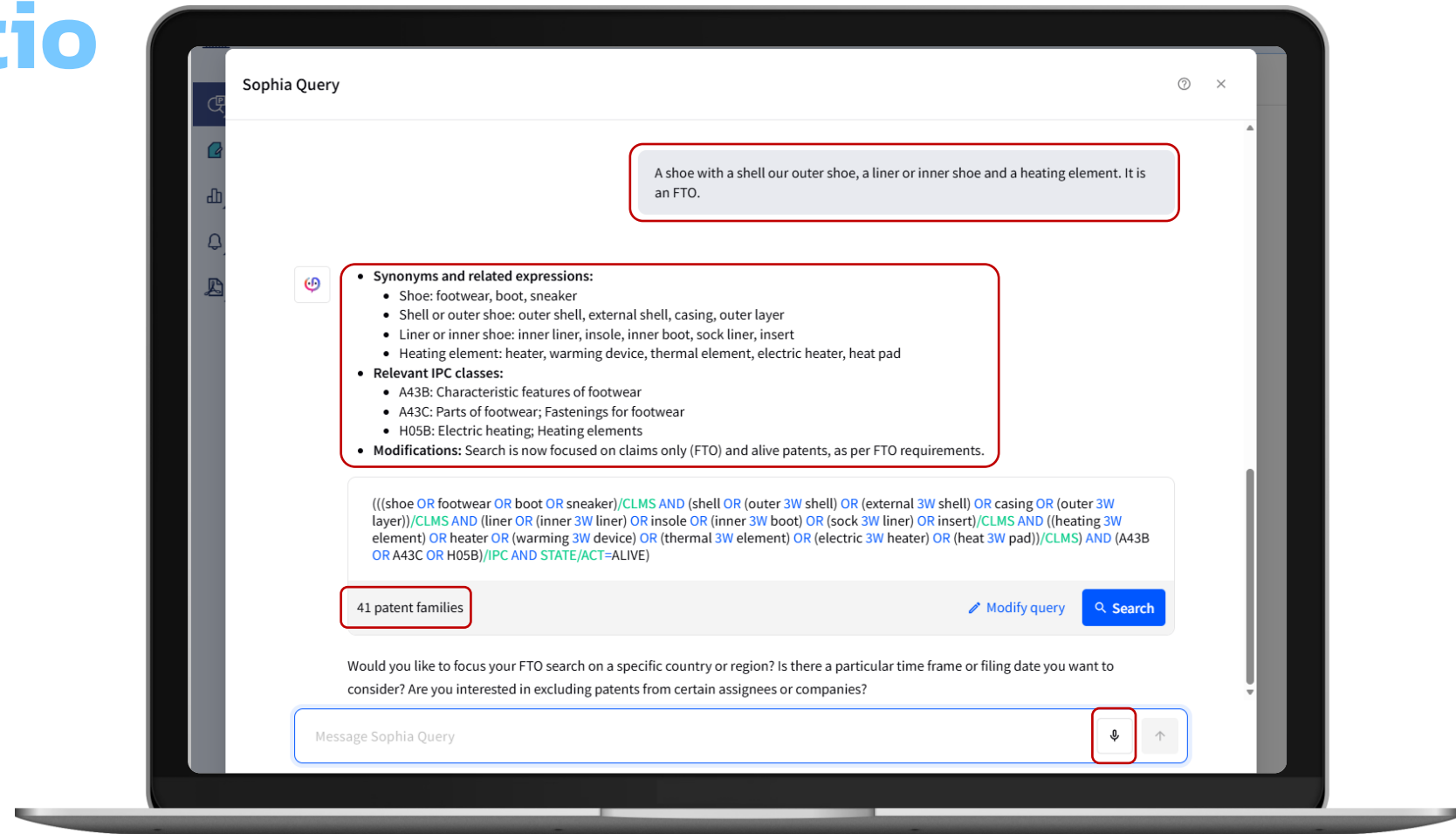
Sophia Query is an AI chat box assistant, trained to take your **Natural Language instructions** and turn them into a **Boolean Patent Search Query**. Use it to jumpstart your search query creation phase. [Learn more in our Knowledge Base.](#)

Search type conversatio nalist

Sophia Query 

Instruct your digital assistant

Synonyms, classes and other restrictions are automatically combined into a query

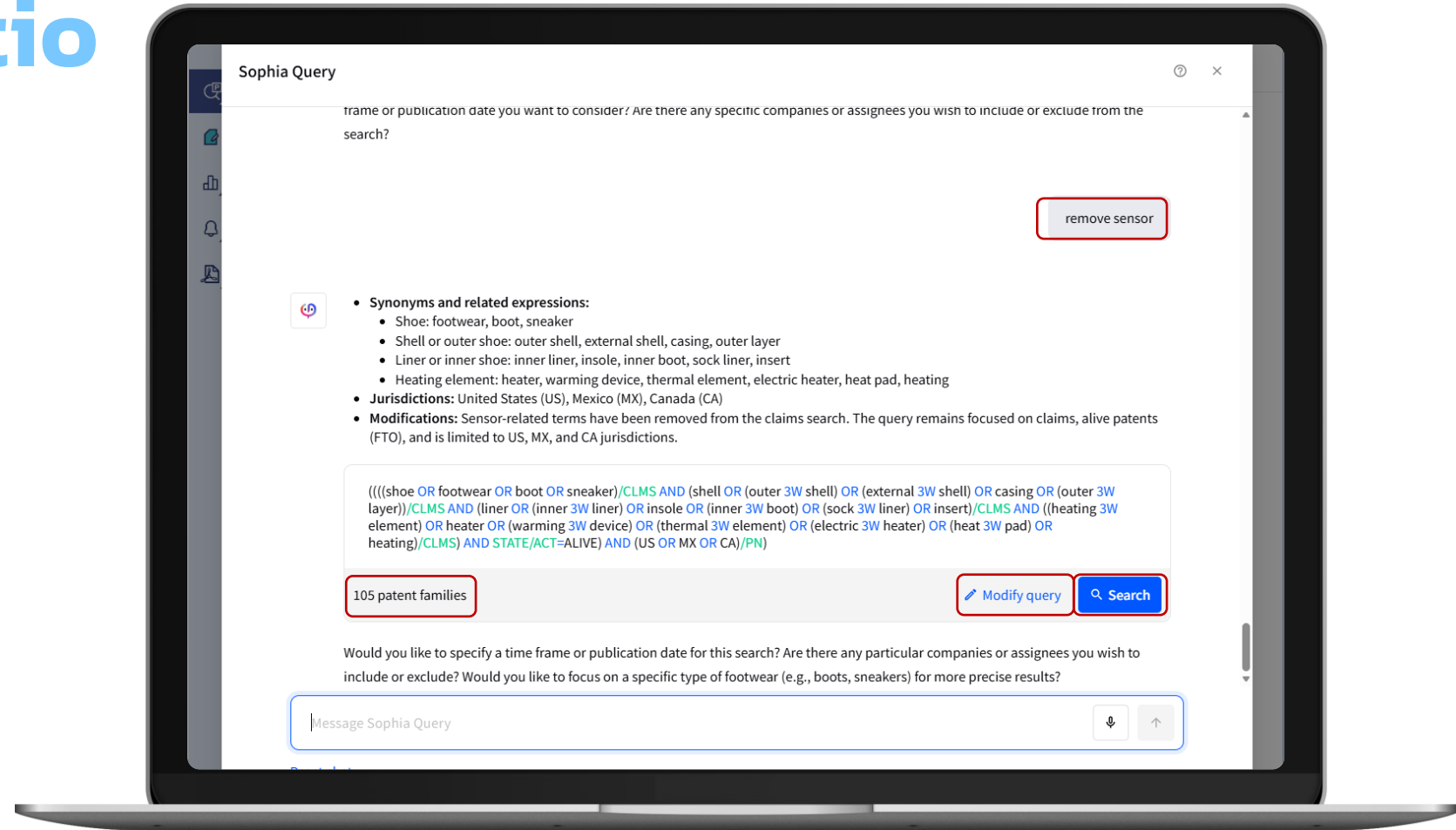


Search type conversationalist

Sophia Query 

Once satisfied

Modify search manually or execute the search and start looking at results



End-to-end with Sophia Search

Sophia Search is an **AI-powered patent semantic search** that uses natural language and advanced **neural embeddings**. It combines a new generation of natural language search based on embeddings, with an AI-powered extraction of features disclosed in user's input and patent fulltext. [Learn more in our Knowledge Base.](#)

 Sophia search

[AI-powered](#) semantic
Please note the input

The disclosure relates to a heating subsystem into a shoe, the subsystem including a sole structure and an outsole and a shock absorber provided, formed from a material, the liner has an upper portion, with a top edge, the footbed having a rounded outer shell.

An integrated heating element and a battery is housed in the sole structure, accessed via a zipper.

Source(s)

 ProductSpec
pdf format

 1 / 5 source(s)

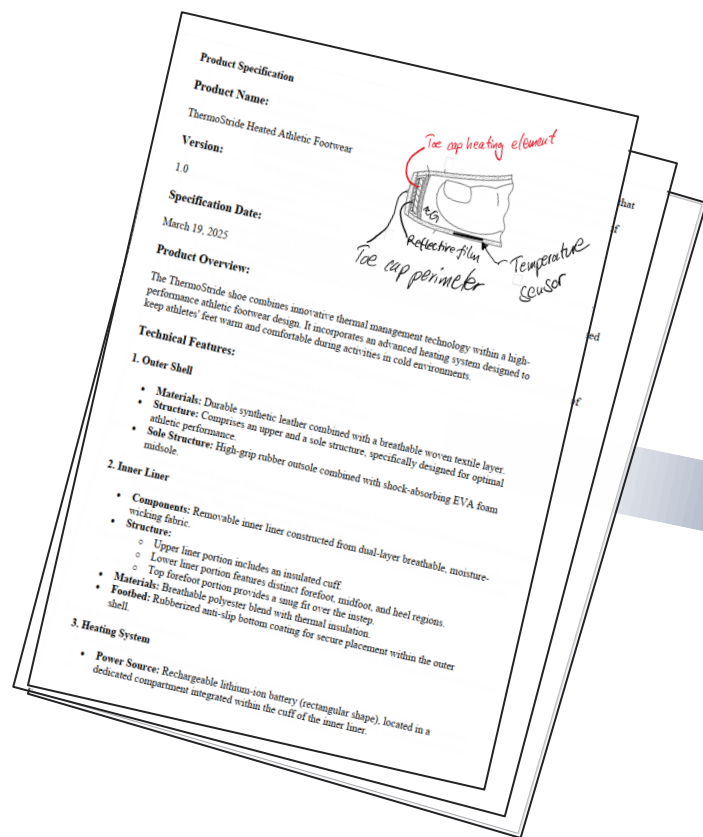
 Optimal text size

 Search



Sophia Search

Sources Assistant



Sophia search

[AI-powered](#) semantic search, by Questel
Please note the input text is sent to a third party for Features extraction, in accordance with our [AI policy](#)

The disclosure relates to electrically heated athletic footwear integrating a thermal management subsystem into a multi-layer shoe architecture. The footwear includes an outer shell with an upper and sole structure configured for athletic use, where the sole incorporates a high-grip rubber outsole and a shock-absorbing foam midsole. Within the outer shell, a removable inner liner is provided, formed from dual-layer breathable, moisture-wicking fabric with thermal insulation. The liner has an upper cuff region and a lower region subdivided into forefoot, midfoot, and heel portions, with a top forefoot portion configured to fit snugly over the instep. The liner includes a footbed having a rubberized anti-slip bottom coating to maintain stable placement relative to the outer shell.

An integrated heating system is embedded in the inner liner. A rechargeable, rectangular lithium-ion battery is housed in a dedicated compartment within the cuff of the liner. The compartment is accessed via a zipper extending from a top edge of the cuff along a front edge, and the battery is

Source(s)

+ Add

ProductSpec_y.pdf

pdf format

1 / 5 source(s)

Extract

Document

pdf

Image

jpg, png, webp

Text

free text

Optimal text size

2526/3000

Search

Semantic mode: unlimited

Features mode

232 credit(s) left



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Prefilters

Sophia search

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The disclosure relates to electrically heated athletic footwear integrating a thermal management subsystem into a multi-layer shoe architecture. The footwear includes an outer shell with an upper and sole structure configured for athletic use, where the sole incorporates a high-grip rubber outsole and a shock-absorbing foam midsole. Within the outer shell, a removable inner liner is provided, formed from dual-layer breathable, moisture-wicking fabric with thermal insulation. The inner liner has an upper cuff region and a lower region subdivided into forefoot, midfoot, and heel portions, with a top forefoot portion configured to fit snugly over the instep. The liner includes a heel portion having a rubberized anti-slip bottom coating to maintain stable placement relative to the outer shell.

An integrated heating system is embedded in the inner liner. A rechargeable, rectangular lithium-ion battery is housed in a dedicated compartment within the cuff of the liner. The compartment is accessed via a zipper extending from a top edge of the cuff along a front edge, and the battery is seated in an embossed battery area and further stabilized by a hook-and-loop securing mechanism. A flexible, durable heating film is arranged around the toe cap perimeter in a rectangular area with a geometry extending vertically from a bottom region of the inner liner to the top forefoot portion with a horizontal component that curves from the lateral to the medial side of the forefoot. The heating element is configured to distribute heat across the toes without direct contact with the foot. A heat-permeable mesh fabric layer is positioned between the heating element and the inner liner, and a metallic reflective film is positioned between the heating element and the outer sole.

1 / 5 source(s)

Extract features

Prefilters

50 results

Optimal text size

Search

Semantic mode: unlimited | Features mode: 232

Edit prefilters

Advanced search form | Command line

FAMPAT - Database

Clear Form

KEYWORDS

Auto-translation | Suggestions | Add

Title - Abstract - Object of invention - Advantages - Independent claims

AND

CLASSIFICATIONS

Add

IPC

AND

LEGAL STATUS

Alive | US | CA | MX | DE | FR | EP

AND

No legal event | Refine by country

AND

No expiration date | YYYY-MM-DD

AND

Expiration in | Refine expiration date by country

Manage fields

5,128,545 patent families

Set as prefilter(s)

Sophia Search

[AI-powered](#) semantic search, by Questel

Please note that for FAMPAT - Database, Non-English texts are not supported.

Prefilters : Search

- Outer Shell
 - Structure: Composite
- Inner Liner
 - Components: Removable
- Heating System
 - Power Source: Rechargeable
 - Heating Element: Flexible, durable heating film
 - Located around the toe cap perimeter
 - Horizontal component that curves from the lateral to the medial side of the forefoot
 - Engineered to distribute heat across the toes without direct contact with the foot
- Battery Compartment
 - Access Mechanism: Zipper
 - Along the front edge of the cuff
 - Battery Security: Hook-and-loop securing mechanism
- Thermal Regulation
 - Heat-permeable mesh fabric layer
 - Heat-conducting material
 - Heat-reflecting material

Extract features

Optimal text size

Search

Semantic mode: unlimited | Features mode: 232



Sophia Search

Prefilters

Edit prefilters

Advanced search form

Command line

FAMPAT - Database

Clear Form

KEYWORDS

Auto-translation

Suggestions

Add

Title - Abstract - Object of invention - Advantages - Independent claims

AND

CLASSIFICATIONS

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US or CA or MX or DE or FR or EP

AND

No legal event

Refine by country

AND

No expiration date

YYYY-MM-DD

AND

Expiration in

Refine expiration date by country

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5,128,545 patent families

Set as prefilter(s)

Sophia search

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Prefilters : *Search the legal status* (Alive in US or EP OR MX OR CA OR FR)

The disclosure relates to electrically heated athletic footwear integrating a thermal management subsystem into a multi-layer shoe architecture. The footwear includes an outer shell with an upper and sole structure configured for athletic use, where the sole incorporates a high-grip rubber outsole and a shock-absorbing foam midsole. Within the outer shell, a removable inner liner is provided, formed from dual-layer breathable, moisture-wicking fabric with thermal insulation. The liner has an upper cuff region and a lower region subdivided into forefoot, midfoot, and heel portions, with a top forefoot portion configured to fit snugly over the instep. The liner includes a footbed having a rubberized anti-slip bottom coating to maintain stable placement relative to the outer shell.

An integrated heating system is embedded in the inner liner. A rechargeable, rectangular lithium-ion battery is housed in a dedicated compartment within the cuff of the liner. The compartment is accessed via a zipper extending from a top edge of the cuff along a front edge, and the battery is seated in an embossed battery area and further stabilized by a hook-and-loop securing member. A flexible, durable heating film is arranged around the toe cap perimeter in a rectangular arcuate geometry extending vertically from a bottom region of the inner liner to the top forefoot portion, with a horizontal component that curves from the lateral to the medial side of the forefoot region.

1 / 5 source(s)

Extract features

Prefilters

50 results

Optimal text size

2526/3000

Search

Semantic mode: unlimited

Features mode

232 credit(s) left

Sophia Search

Feature extraction & validation

Sophia search

AI-powered semantic search, by Questel

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Prefilters : Search the legal status (Alive in US or EP OR MX OR CA OR FR)

The disclosure relates to electrically heated athletic footwear integrating a thermal management subsystem into a multi-layer shoe architecture. The footwear includes an outer shell with an upper and sole structure configured for athletic use, where the sole incorporates a high-grip rubber outsole and a shock-absorbing foam midsole. Within the outer shell, a removable inner liner is provided, formed from dual-layer breathable, moisture-wicking fabric with thermal insulation. The liner has an upper cuff region and a lower region subdivided into forefoot, midfoot, and heel portions, with a top forefoot portion configured to fit snugly over the instep. The liner includes a footbed having a rubberized anti-slip bottom coating to maintain stable placement relative to the outer shell.

An integrated heating system is embedded in the inner liner. A rechargeable, rectangular lithium-ion battery is housed in a dedicated compartment within the cuff of the liner. The compartment is accessed via a zipper extending from a top edge of the cuff along a front edge, and the battery is seated in an embossed battery area and further stabilized by a hook-and-loop securing member. A flexible, durable heating film is arranged around the toe cap perimeter in a rectangular arcuate geometry extending vertically from a bottom region of the inner liner to the top forefoot portion, with a horizontal component that curves from the lateral to the medial side of the forefoot region. The heating element is configured to distribute heat across the toes without direct contact with the foot. A heat-permeable mesh fabric layer is positioned between the heating element and the foot, and a metallic reflective film is positioned between the heating element and the outer toe cap perimeter to reflect heat inward.

Thermal regulation is provided by an electronic control system including an external control button located on a lateral side of the upper liner cuff. The single-button interface supports multiple power settings including off and at least three discrete power levels associated with different operating durations. An integrated thermostat automatically regulates temperature to prevent overheating. The battery and electronic components are waterproofed and insulated. The system is specified with a shoe mass on the order of hundreds of grams for a given size, and a battery having defined length, width, and thickness. The liner is removable to facilitate drying and cleaning, and the battery is removable for charging.

1 / 5 source(s) Extract features Prefilters 50 results

Optimal text size 2526/3000

Search Semantic mode: unlimited Features mode 232 credit(s) left

Features

10 features selected for improved search and feature-to-text matching

Clear features

High (4/4)

Integrated Thermal Management Subsystem

A subsystem embedded within a multi-layer shoe architecture to provide controlled electrical heating for athletic footwear applications.

Flexible Heating Film Geometry

A flexible, durable heating film arranged in a rectangular arcuate geometry around the toe cap perimeter, extending vertically and horizontally to distribute heat across the toes.

Rechargeable Lithium-Ion Battery Compartment

A dedicated, zippered compartment within the liner cuff houses a rectangular lithium-ion battery, stabilized by an embossed area and hook-and-loop member.

Electronic Thermal Regulation System

An electronic control system with an external button interface on the liner cuff enables multiple power settings and integrates an automatic thermostat for temperature regulation.

Medium (3/3)

Heat-Permeable Mesh Layer

A mesh fabric layer is positioned between the heating element and the foot to permit heat transfer while preventing direct contact with the heating element.

Metallic Reflective Film Barrier

A metallic reflective film is placed between the heating element and the outer toe cap perimeter to reflect heat inward toward the foot.

Removable Liner and Battery Design

The liner and battery are both removable to facilitate drying, cleaning, and battery charging operations.



Sophia Search

Feature matching

Review

Semantic Match

- Closeness between product specification and patent family
- Quality indicator

Features Match

- Number of common features with product specification
- Descending sort order

Patent families (FamPat) - 3 resultsNon-patent literature (NPL)

Select

PDF

Grouping: FAMPATView: Classic

#	Pub. No.	Title	Earliest Prio. Date	Current Assignee	Features Match	Semantic Match
1	EP3692849	Article of footwear with a heating system	2012-08-29	NIKE INNOVATE	↑ Excellent	
2	EP2866599	Fussbekleidungsartikel mit indikator für ein heizsystem	2012-08-29	NIKE INNOVATE	↗ Good	

The present invention relates to an article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion; the lower liner portion including a bottom disposed along an underside of the inner liner, the bottom being configured to rest along a bottom of the interior of the outer shell when the inner liner is inserted within the outer shell; the lower liner further comprising a top forefoot portion disposed along a top of the inner liner in a forefoot region and a toe cap perimeter disposed along an outer edge of the forefoot region, the toe cap perimeter extending between the bottom of the lower liner and the top forefoot portion; and wherein the heating element is disposed along the toe cap perimeter of the lower liner portion of the inner liner.

An indicator for a heated article of footwear that includes an outer shell and a removable inner liner is described. The inner liner includes a heating system with an indicator disposed on a forefoot region of the inner liner. The heating system is integrated within the inner liner and is removable with the inner liner from the outer shell. A viewing window is disposed on the outer shell at a location corresponding to the indicator located on the inner liner. With this arrangement, the status condition of the heating system on the inner liner may be communicated to a wearer of the article through the viewing window from within the interior of the article.

PreviewSophia LabSophia search

High

1.Integrated Thermal Management Subsystem

A subsystem embedded within a multi-layer shoe for athletic footwear applications.

Snippet #1 - US20140059882 A1 - Description [00]

In one aspect, the invention provides an article of footwear comprising: an outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion, wherein the upper liner portion includes a cuff;

Snippet #2 - US20140059882 A1 - Description [00]

In an exemplary embodiment, heating system 400 is disposed within the interior of outer shell 100 so that heating system 400 is removably associated with the interior of outer shell 100 and is removed from within the interior of outer shell 100.

Snippet #3 - US20140059882 A1 - Claim 1

An article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion, wherein the upper liner portion includes a cuff; a battery compartment area disposed in between a forefoot region and a heel region of the inner liner, the battery compartment area being configured to be removably inserted within the interior of the outer shell; and a viewing window disposed on the outer shell at a location corresponding to the battery compartment area of the inner liner, the viewing window being configured to be viewed from within the interior of the outer shell.



Sophia Search

Text snippets supporting disclosure

The screenshot displays the Sophia Search interface with a navigation bar at the top containing tabs: Preview, Sophia Lab, Sophia search, Annotations, Image, Claims, Description, and Key cont. The main content area is divided into two columns. The left column shows search results for 'NIKE INNOVATE' with a 'Features Match' section displaying a green 'Excellent' badge and a 'Semantic Match' section displaying a green 'Good' badge. The right column shows a detailed view of a patent snippet titled '1.Integrated Thermal Management Subsystem' with a 'Disclosed' status. The snippet text describes a subsystem embedded within a multi-layer shoe architecture. A tooltip titled 'Heat-Permeable Mesh Layer' is visible, providing additional context: 'A mesh fabric layer is positioned between the heating element and the foot to permit heat transfer while preventing direct contact with the heating element.' A vertical list of numbered items (1-10) is on the right side of the snippet view.

Grouping: FAMPAT View: Classic

Current Assignee: NIKE INNOVATE

Features Match: Excellent

Semantic Match: Good

1.Integrated Thermal Management Subsystem Disclosed

A subsystem embedded within a multi-layer shoe architecture to provide controlled electrical heating for athletic footwear applications.

Snippet #1 - US20140059882 A1 - Description [0004]

In one aspect, the invention provides an article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion, wherein the upper liner portion includes a cuff;

Heat-Permeable Mesh Layer

A mesh fabric layer is positioned between the heating element and the foot to permit heat transfer while preventing direct contact with the heating element.

Snippet #2 - US20140059882 A1 - Description [0049]

In an exemplary embodiment, heating system 400 may be completely disposed within inner liner 130 so that heating system 400 is removably associated with article 100 when inner liner 130 is removed from within the interior of outer shell 110.

Snippet #3 - US20140059882 A1 - Claim 1

An article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion, wherein the upper liner portion includes a cuff; wherein the cuff includes a battery compartment area disposed in between an outer layer of the inner liner and an inner layer of the inner liner, the battery compartment area being configured to receive the power source of the heating system.

Black Box AI?

Sophia Search tab

- Provides text snippets in support of feature disclosure
- Explainable AI & traceability
- Verify in description?



Sophia Search

Text snippets supporting disclosure

Biblio

Claims

Description

Key content

Kwic

Translate

Description

BACKGROUND

[0001] The present invention relates generally to an article of **footwear**, and more specifically, to an article of **footwear** with a **heating** system.

[0002] Heated articles of **footwear** and heated insoles for use in articles of **footwear** are known in the art. U.S. patent number 5,623,772 to Sunderland discloses a foot warming system for a **boot** that includes a **heating element** fit inside a cavity in a molded **insole**. U.S. patent application publication number 2004/0020074 to Brait et al. discloses a **heater** device disposed either above or below a forefoot region of an inner **shoe**.

[0003] There exists a need in the art for a heated article of **footwear** that is configured with a **heating** system that is easily removable and accessible by a wearer.

[0004] Document DE 10 2010055761 describes an inner **shoe**, in particular a ski **boot** inner **shoe**, comprising an integrated **heating** system for warming the foot in cold weather. The inner **shoe** comprises at least one prefabricated, flat **heating element** that can be heated by an electrical current flow.

SUMMARY

[0005] The claimed invention relates to an article of **footwear** as specified in claim 1. Additional embodiments are specified in the dependent claims. In one aspect, the disclosure provides an article of **footwear** comprising: an **outer shell**, the **outer shell** including an upper and a sole structure; an **inner liner**, the **inner liner** being configured to be removably inserted within an interior of the **outer shell**; the **inner liner** further comprising a **heating** system, the **heating** system including a power source and a **heating element**; the **inner liner** having an upper **liner** portion and a lower **liner** portion, wherein the upper **liner** portion includes a cuff, wherein the cuff includes a battery compartment area disposed in between an **outer layer** of the **inner liner** and an inner layer of the **inner liner**, the battery compartment area being configured to receive the power source of the **heating** system; and wherein the **heating element** is a toe cap **heating element** that is disposed along an outer perimeter of a forefoot region of the lower **liner** portion of the **inner liner**.

[0006] In another aspect, the disclosure provides an article of **footwear** comprising: an **outer shell**, the **outer shell** including an upper and a sole structure; an **inner liner**, the **inner liner** being configured to be removably inserted within an interior of the **outer shell**; the **inner liner** further comprising a **heating** system, the **heating** system including a power source and a **heating element**; the **inner liner** having an upper **liner** portion and a lower **liner** portion; the lower **liner** portion including a bottom disposed along an underside of the **inner liner**, the bottom being configured to rest along a bottom of the interior of the **outer shell** when the **inner liner** is inserted within the **outer shell**; the lower **liner** further comprising a top forefoot portion disposed along a top of the **inner liner** in a forefoot region and a toe cap perimeter disposed along an outer edge of the forefoot region, the toe cap perimeter extending between the bottom of the lower **liner** and the top forefoot portion; and wherein the **heating element** is disposed along the toe cap perimeter of the lower **liner** portion of the **inner liner**.

[0007] In another aspect, the disclosure provides an article of **footwear** comprising: an **outer shell**, the **outer shell** including an upper and a sole structure; an **inner liner**, the **inner liner** being configured to be removably inserted within an interior of the **outer shell**; the **inner liner** further comprising a **heating** system, the **heating** system including a power source and a **heating element**; the **inner liner** having an upper **liner** portion and a lower **liner** portion, wherein the upper **liner** portion includes a cuff disposed along a top edge of the upper **liner** portion and extending downwards along a front edge of the upper **liner** portion; wherein the cuff includes a battery compartment area disposed in between an **outer layer** of the **inner liner** and an inner layer of the **inner liner**, the battery compartment area being configured to receive the power source of the **heating** system; and wherein the battery compartment area comprises a fastening mechanism that is configured to join the **outer layer** with the inner layer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The invention can be better understood with reference to the following drawings and description. The components in the figures are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the invention. Moreover, in the figures, like reference numerals designate corresponding parts throughout the different views.

FIG. 1 is an isometric view of an exemplary embodiment of an article of **footwear**.

FIG. 2 is an exploded isometric view of an exemplary embodiment of an article of **footwear**.

Image

Chemistry table

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Concepts

Legal status

XLS

Snippet #3 - US20140059882 A1 - Description [0059]

A zipper 700 may be disposed on the cuff running from top edge 300 and extending downwards along front edge 302 on lateral side 16 of upper liner portion 202.

Snippet #4 - US20140059882 A1 - Description [0060]

Zipper 700 may be moved between an open position and a closed position to allow access to an interior of a battery compartment area 404.

6.External Temperature Control Button

Partially disclosed

An external control button on the lateral side of the upper liner cuff allows user adjustment of heating levels.

Snippet #1 - US20140059882 A1 - Claim 10

the heating system further comprises a control mechanism; and wherein the control mechanism is connected to at least one of the power source and the heating element.

Snippet #2 - US20140059882 A1 - Claim 11

wherein the control mechanism is disposed on the upper liner portion adjacent to a top edge of the inner liner.

Snippet #3 - US20140059882 A1 - Description [0046]

Lateral side 16 of inner liner 130 includes a control mechanism 310 that may be associated with one or more components of a heating system. Control mechanism 310 may be associated with a power button, switch or other control device disposed on an outer surface of upper liner portion 202.

Snippet #4 - US20140059882 A1 - Description [0051]

Black Box AI?

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- Explainable AI & traceability
- Verify in description?
 - Enter family view
 - Description or claims next to Sophia Search tab

Result review

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But also helps you preparing

- A feature table

Back to list

Menu Detail

Family view - 1 / 6

- WO2014/036049 A1
- EP2866600 B1
- EP2866600 A1
- EP3692849 B1
- EP3692849 A3
- EP3692849 A2
- US9427041 B2
- US20140059882 A1

Biblio

Description

Claims

Image

Legal status

Fussbekleidungsartikel mit einem heizsystem

Abstract

The present invention relates to an article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner; the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion; the lower liner portion including a bottom disposed along an underside of the inner liner; the bottom being configured to rest along a bottom of the interior of the outer shell when the inner liner is inserted within the outer shell; the lower liner further comprising a top forefoot portion disposed along a top of the inner liner in a forefoot region and a toe cap perimeter disposed along an outer edge of the forefoot region, the toe cap perimeter extending between the bottom of the lower liner and the top forefoot portion; and wherein the heating element is disposed along the toe cap perimeter of the lower liner portion of the inner liner.

Protected countries

Granted: DE, EP, FR, GB, US

List of publications

Compare patents

Application number: 2013WO-US56933 Date: 2013-08-28 Register

WO2014/036049 A1 - Published application with search report 2014-03-06 PDF

Application number: 2013EP-077948 Date: 2013-08-28 Register

EP2866600 B1 - Patent specification 2020-02-26 PDF

EP2866600 A1 - Application published with search report 2015-05-06 PDF

Application number: 2020EP-0159144 Date: 2013-08-28 Register

EP3692849 B1 - Patent specification 2023-05-24 PDF

EP3692849 A3 - Published search report 2020-10-21 PDF

EP3692849 A2 - Application published without search report 2020-08-12 PDF

Application number: 2012US-13597506 Date: 2012-08-29 Register IDS analyzer

US9427041 B2 - Granted patent as second publication 2016-08-30 PDF

US20140059882 A1 - Application published 2014-03-06 PDF

Inventor(s)

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SMALDONE PATRICIA L

All assignees

NIKE INNOVATE

NIKE

NIKE INTERNATIONAL

Re-assignment

2012 - Present

NIKE

Original

Representative

(EP3692849)

Muller-Boré & Partner Patentanwälte PartG mbB (DE); Reg. Nb: 100060440

(EP2866600)

Muller-Boré & Partner Patentanwälte PartG mbB (DE); Reg. Nb: 100060440

Sophia document

reference claims or claim numbers. Include sub-features from the description that are essential or specifically elaborated embodiments. If a feature is not present, state "Information regarding [feature] was not found."

Short Feature Name	Feature Definition
Technical Field	Article of footwear with a heating system, particularly for providing warmth to the foot, especially in cold weather conditions.
Outer Shell Structure	An outer shell including an upper and a sole structure, configured to receive a removable inner liner within its interior.
Removable Inner Liner	An inner liner configured to be removably inserted within the interior of the outer shell, forming the main interface with the wearer's foot.
Inner Liner Structure	The inner liner comprises an upper liner portion (including a cuff) and a lower liner portion, with the lower portion associated with the toes, arch, and heel, and the upper portion extending upwards to cover the ankle.
Heating System Integration	A heating system, including a power source and a heating element, is fully disposed within the inner liner, allowing the liner and heating system to be removed together from the outer shell.
Toe Cap Heating Element	A heating element specifically disposed along the toe cap perimeter of the lower liner portion, extending vertically between the top forefoot portion and the bottom of the inner liner, and positioned to provide heat to the forefoot region.
Interior Mesh Liner Layer	An interior liner layer made of mesh is disposed within the inner liner, positioned between the heating element and the wearer's toes, allowing heat to permeate while preventing direct contact with the heating element.
Reflective Film Placement	A reflective film is disposed between the heating element and the toe cap perimeter, configured to reflect heat from the heating element towards the interior of the inner liner to enhance thermal efficiency.
Control Mechanism	A control mechanism, such as a power button or switch, is disposed on the upper liner portion, adjacent to the top edge of the inner liner, and is configured to control power and heating settings of the heating system.
	A battery compartment area is integrated into the cuff of the upper liner portion, disposed

EP3692849 B1 Full document

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Record 1 of 6

Displaying records 1 - 6 of 6

Available credit(s): 298,692 Estimated cost:



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- A feature table
- A semantic search input

The screenshot displays the Sophia Document interface for a patent document. The main document area shows the abstract, claims, and a list of publications. The right-hand panel features a 'Welcome!' message and a 'Semantic Search Input' field. The search input field contains a prompt: 'based on the independent claim, provide a 3000 character semantic search input as a paragraph to identify similar patents'. Below the search input, there is a 'Semantic Search Input' section with a detailed description of the patent document. The interface also includes a 'Translate' button and a 'Prompt library' section.

Family view - 1 / 6

- WO2014/036049 A1
- EP2866600 B1
- EP2866600 A1
- EP3692849 B1
- EP3692849 A3
- EP3692849 A2
- US9427041 B2
- US20140059882 A1

Fussbekleidungsartikel mit einem heizsystem

Abstract

The present invention relates to an article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure; an inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell; the inner liner further comprising a heating system, the heating system including a power source and a heating element; the inner liner having an upper liner portion and a lower liner portion; the lower liner portion including a bottom disposed along an underside of the inner liner, the bottom being configured to rest along a bottom of the interior of the outer shell when the inner liner is inserted within the outer shell; the lower liner further comprising a top forefoot portion disposed along a top of the inner liner in a forefoot region and a toe cap perimeter disposed along an outer edge of the forefoot region, the toe cap perimeter extending between the bottom of the lower liner and the top forefoot portion; and wherein the heating element is disposed along the toe cap perimeter of the lower liner portion of the inner liner.

Protected countries

Granted: DE, EP, FR, GB, US

List of publications

Publication number	Date	Register
WO2014/036049 A1 - Published application with search report	2014-03-06	PDF
EP2866600 B1 - Patent specification	2020-02-26	PDF
EP2866600 A1 - Application published with search report	2015-05-06	PDF
EP3692849 B1 - Patent specification	2023-05-24	PDF
EP3692849 A3 - Published search report	2020-10-21	PDF
EP3692849 A2 - Application published without search report	2020-08-12	PDF
US9427041 B2 - Granted patent as second publication	2016-08-30	PDF
US20140059882 A1 - Application published	2014-03-06	PDF

Inventor(s)

LUPINEK JAROSLAV J
SMALDONE PATRICIA L

All assignees

NIKE INNOVATE
NIKE
NIKE INTERNATIONAL

Re-assignment

2012 - Present NIKE Original

Representative

(EP3692849)
Muller-Boré & Partner Patentanwälte PartG mbB [DE]; Reg. Nb: 100060440

(EP2866600)
Muller-Boré & Partner Patentanwälte PartG mbB [DE]; Reg. Nb: 100060440

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Welcome !

I'm an AI assistant dedicated to patent understanding and analysis. Ask me anything about the patent text - technical details, claims language... - and I'll provide answers as accurate and sourced as possible.

based on the independent claim, provide a 3000 character semantic search input as a paragraph to identify similar patents

Semantic Search Input: An article of footwear comprising an outer shell with an upper and sole structure, and a removably insertable inner liner. The inner liner incorporates a heating system, which includes a power source and a heating element, both disposed entirely within the inner liner. The liner is structured with an upper liner portion and a lower liner portion; the lower liner portion features a bottom configured to rest along the bottom interior of the outer shell, a top forefoot portion positioned over the forefoot region, and a toe cap perimeter extending between the bottom and the top forefoot portion along the outer edge of the forefoot region. The heating element is specifically positioned between the toe cap perimeter of the lower liner portion and an interior liner layer made of mesh, within the inner liner. Additionally, a reflective film is placed between the heating element and the toe cap perimeter to direct heat inward. The configuration enables the heating system to be fully integrated and removable with the inner liner, providing targeted heating to the toe region while ensuring accessibility and modularity. The invention emphasizes the spatial arrangement of the heating element, mesh liner, and reflective film within the toe cap perimeter of the inner liner, and the removable nature of the liner for ease of access and maintenance. The technical focus is on the integration of a heating system within a removable liner, the specific placement of heating components for efficient heat delivery to the forefoot and toe regions, and the use of a reflective film to enhance thermal efficiency. This search input targets patents describing footwear with integrated, removable heating systems, especially those with heating elements positioned in the toe region, mesh liner layers, and reflective films for heat management within the liner structure.

Would you like to refine the search input for a specific footwear type, heating technology, or liner material?

✓ • 17:08 GMT+2 • • EP3692849 B1 • Full document

Please extract and tabulate the core technical features of the invention from the patent document. The table should be structured to support Freedom to Operate (FTO) analysis by listing each distinct technical element that defines the invention, including key sub-features from selected embodiments in the description. For each feature, provide:
Short Feature Name: A concise label for the feature.
Feature Definition: A brief, text-bound description of the feature as disclosed in the

EP3692849 B1 Full document

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Family view - 3 / 6

IN202411058221 A

Temp - comfort shoe

Abstract

The present disclosure introduces a temp-comfort shoes 100 which represents a significant advancement in footwear technology, addressing the challenge of maintaining optimal foot temperature in varying environmental conditions. This innovative invention comprises multiple components connected with conducting wires 114 meticulously designed to regulate foot warmth effectively. The shoe body 102, constructed from durable materials like leather and rubber provides structural integrity, while the conducting cloth 104 efficiently converts electrical energy into heat when powered by the rechargeable battery 112. Heat retaining pads 106, heat transfer layer 108, and over-heat protection circuit 110 work synergistically to ensure even heat distribution and user safety. Convenient features such as charging sockets 116 and waterproof socket 118 cover enhance usability and durability. The versatility and cost-effectiveness of this invention make it a practical system for individuals seeking reliable temperature regulation in footwear.

Protected countries

Pending: IN

List of publications

Compare patents

Application number

 2024IN-11058221

Date

 2024-07-31

Register

IN202411058221 A - Application laid open

 2024-08-16

Inventor(s)

Mehta Sunita
Sharma Kulbhushan
Mudita

All assignees

CHITKARA INNOVATION INCUBATOR FOUNDATION

CHITKARA UNIVERSITY

Priority numbers & dates

2024IN-11058221 2024-07-31

Technology domain

Electrical machinery, apparatus, energy
Other consumer goods
Pharmaceuticals

IPC codes

A43B-003/00

A61P-029/00

H01M-004/36

H01M-010/613

H01M-010/625

CPC codes

Entry week in the collection

 2024-35

Sophia document

Patent Identification Analysis

The provided patent (IN202411058221 A, "Temp - comfort shoe") would be identified by the prompt, based on the following strictly text-bound mapping:

Prompt Element	Patent Text Evidence	Match?
Shoe/Boot/Footwear/Heated Shoe/Heated Boot/Heated Footwear	"temp - comfort shoes"; "shoe body"; "footwear"; "temperature comfort shoe"; "heated mechanism"; "heated shoe" [Claims: 1, 10; Description paragraphs: [0001], [0003], [0030], [0032], [0039]]	YES
Shell/Outer Shell/Outer Structure	"shoe body to provide structural integrity and protection for the foot"; "shoe body forms the outermost layer, encapsulating the innovative heating mechanism" [Claims: 1; Description paragraphs: [0032], [0036]]	YES
Liner/Inner Liner/Insole/Inner Layer	"heat transfer layer facilitates efficient heat distribution to the wearer's feet"; "heat transfer layer positioned closest to the skin within the shoe body" [Claims: 1; Description paragraphs: [0036]]	YES
Heat+/Heating/Heated/Warming/Thermal Element/Heating Element/Electric Heater	"conducting cloth to convert electrical energy into heat"; "heat retaining pads to preserve warmth"; "over-heat protection circuit"; "rechargeable battery to power the heating mechanism"; "heat transfer layer" [Claims: 1, 10; Description paragraphs: [0033], [0034], [0035], [0036], [0037], [0038]]	YES
IPC/CPC: A43B, H05B	Technical field: "wearable technology, specifically addressing the niche of temperature-regulating footwear through innovative material science and electrical engineering systems" [Description paragraphs: [0001]]	YES

Majority of Prompt Features Fulfilled:

 All major prompt elements (footwear, shell, liner, heating) are explicitly present in the claims and description. The technical field aligns with the relevant IPC/CPC codes.

Patent Status:

 The patent is published and appears to be alive based on the provided data (application and publication dates in 2024).

Conclusion:

 YES This patent would be identified by the prompt, as all core technical and classification features are present.

IN202411058221 A

Full document

Prompt library

Expert Model

Record 3 of 6

Displaying records 1 - 6 of 6

Available credit(s): 297.932

Estimated cost: 100



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- A feature table
- A semantic search input
- Help us review our query
- A FTO Relevancy check

The screenshot displays the Sophia Document interface. On the left, a sidebar shows a list of patent documents with checkboxes and document numbers (e.g., WO2014/036049 A1, EP2866600 B1, EP3692849 B1, EP3692849 A3, EP3692849 A2, US9427041 B2, US20140059882 A1). The main area shows the details of a patent document, including the title 'Fussbekleidungsartikel mit einem Heizsystem', an abstract, protected countries, a list of publications, inventor(s), all assignees, re-assignment, and representative information. On the right, a 'Sophia document' panel displays a 'Step 2: Feature Table Mapping' table. The table has three columns: 'Claim Chart Feature', 'Feature Table Mapping', and 'Claim feature fulfilled?'. The table contains several rows mapping specific features to patent claims, with a 'YES' in the 'Claim feature fulfilled?' column for each row. Below the table, there is a 'Full document' link and a 'Prompt library' section. The bottom of the interface shows 'Record 1 of 6' and 'Displaying records 1 - 6 of 6'.

Claim Chart Feature	Feature Table Mapping	Claim feature fulfilled?
An article of footwear comprising: an outer shell, the outer shell including an upper and a sole structure	Outer Shell Structure: An outer shell including an upper and a sole structure, configured to receive a removable inner liner within its interior.	YES
An inner liner, the inner liner being configured to be removably inserted within an interior of the outer shell	Removable Inner Liner: An inner liner configured to be removably inserted within the interior of the outer shell, forming the main interface with the wearer's foot.	YES
The inner liner further comprising a heating system, the heating system including a power source and a heating element, wherein the heating system is disposed within the inner liner	Heating System Integration: A heating system, including a power source and a heating element, is fully disposed within the inner liner, allowing the liner and heating system to be removed together from the outer shell.	YES
The inner liner having an upper liner portion and a lower liner portion	Inner Liner Structure: The inner liner comprises an upper liner portion (including a cuff) and a lower liner portion, with the lower portion associated with the toes, arch, and heel, and the upper portion extending upwards to cover the ankle.	YES
The lower liner portion including a bottom disposed along an underside of the inner liner; the bottom being configured to rest along a bottom of the interior of the outer shell when the inner liner is inserted within the outer shell	Inner Liner Structure: The lower portion associated with the toes, arch, and heel, and the upper portion extending upwards to cover the ankle.	YES
The lower liner portion further comprising a top forefoot portion disposed along a top of the inner liner in a forefoot region and a toe cap perimeter disposed along an outer edge of the forefoot region, the toe cap perimeter extending between the bottom of the lower liner portion and the top forefoot portion	Toe Cap Heating Element: A heating element, specifically disposed along the toe cap perimeter of the lower liner portion, extending vertically between the top forefoot portion and the bottom of the inner liner, and positioned to provide heat to the forefoot region.	YES
	Interior Mesh Inner Liner: An interior inner liner	



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Prompt based review at scale

Sophia Multi Document

Review many records at once

- Scope can be reduced to claims only
- Corpus v Parallel mode
- Can be implemented with your method.

Result review

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Admin

Language & document selection

Use case:

- Patent Summary
- Claims rewrite
- Claim graph

EP3076820 B2 - New patent specification		
Application	2014US-14511528	2014-10-10
US9179734 B2 - Granted patent as second publication		2015-11-10
US20150150337 A1 - Application published		2015-06-04
Application	2014US-14285118	2014-05-22
US8869429 B1 - Granted patent as first publication		2014-10-28
Application	2014WO-US33499	2014-04-09
WO2015/084430 A1 - Published application with search...		2015-06-11
Application	2014EP-0866929	2014-04-09
EP3076820 B2 - New patent specification		2021-11-10

- ✓ English
- Français
- 日本語
- 中文
- Deutsch

Preview Sophia Lab Sophia search Annotations Image Claims Description Key

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Experimental [generative AI](#) features, content generated in [English](#)

EP3076820 B2 - New patent specification

Patent summary
Generate a summary that highlights the main topics.
Run

Claims rewrite
Reformulate claims to highlight novelty for quicker understanding.
Run

Claim graph
Visualize the technical means and their functional relationships for the first claim.
Run



Powerful Review with Sophia Lab

Use cases

Patent Summary

Claims rewrite

Claim graph



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Experimental [generative AI](#) features, content generated in [English](#)

US9427041 B2 - Granted patent as second publication

Patent summary

Generate a summary that highlights the main topics.



Removable Heated Inner Liner for Footwear with Integrated Toe Cap Heating System

The invention relates to an article of footwear comprising an outer shell with an upper and sole structure, and a removable inner liner equipped with a heating system. The inner liner includes an upper and lower portion, with the lower portion featuring a forefoot, heel, midfoot regions, and an outermost front tip portion of the forefoot region. The outermost front tip portion extends vertically between the bottom and top of the forefoot region and contains a gap positioned between the toe cap perimeter and an interior liner layer. The heating system includes a toe cap heating element with a rectangular and arcuate shape, disposed within this gap, and a power source housed in a battery compartment area within the cuff of the liner, which is accessible via a fastening mechanism such as a zipper.

Claim summary

Claim 1 describes a footwear article with a removable inner liner that contains a heating system including a power source and a toe cap heating element. The inner liner has an upper portion with a cuff and a lower portion with forefoot, heel, and midfoot regions. The outermost front tip of the forefoot region extends vertically between the bottom and top of the forefoot, with a gap between the toe cap perimeter and an interior liner layer, where the heating element is positioned. The cuff includes a battery compartment area between inner and outer layers, designed to hold the power source.

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Experimental [generative AI](#) features, content generated in [English](#)

US9427041 B2 - Granted patent as second publication

Patent summary

Generate a summary that highlights the main topics.



Claims rewrite

Reformulate claims to highlight novelty for quicker understanding.



Summary

Claim 1: An article of footwear with an outer shell (including upper and sole), a removable inner liner with a heating system (power source and heating element) disposed within, the inner liner having upper and lower portions, with the upper portion including a cuff. The lower portion has forefoot, heel, midfoot regions, and an outermost front tip portion of the forefoot extending vertically between the bottom and top of the forefoot, with a gap between the outermost front tip and the toe cap perimeter. The forefoot has lateral and medial sides. The cuff includes a battery compartment area between inner liner layers, designed to hold the power source. The heating element is a toe cap heating element with rectangular and arcuate shape, positioned only within the gap, with a vertical and a curved horizontal portion extending between the bottom and top of the forefoot region.

Claim 2: The battery compartment area is along the top edge of the upper liner portion and extends downward along the front edge.

Claim 3: The battery compartment area includes a fastening mechanism to join the outer and inner liner layers.



Powerful Review with Sophia Lab

Use cases

Patent Summary

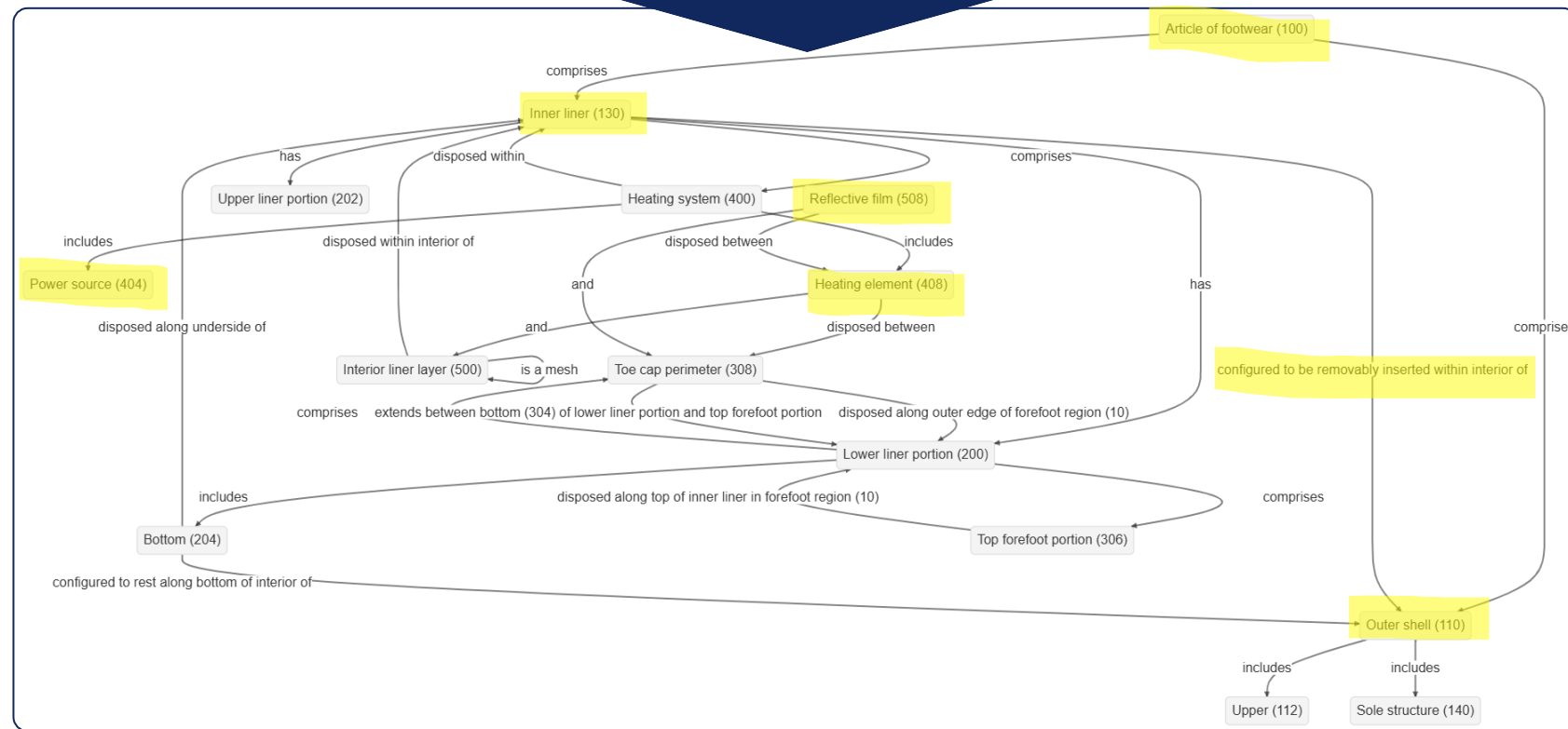
Claims rewrite

Claim graph

A unique athletic shoe

1. Outer liner or shell
2. Inner liner (removable)
3. Battery (removably in in the inner liner)
4. Heating element (in toe cap area)
5. Reflective film (reflecting heat inwards)
6. Temperature sensor

1. An article of footwear (100) comprising:
an outer shell (110), the outer shell (110) including an upper (112) and a sole structure (140);
an inner liner (130), the inner liner (130) being configured to be removably inserted within an interior of the outer shell (110);
the inner liner (130) further comprising a heating system (400), the heating system (400) including a power source (404) and a heating element (408), wherein the heating system is disposed within the inner liner (130);
the inner liner (130) having an upper liner portion (202) and a lower liner portion (200);
the lower liner portion (200) including a bottom (204) disposed along an underside of the inner liner (130), the bottom (204) being configured to rest along a bottom of the interior of the outer shell (110) when the inner liner (130) is inserted within the outer shell (110);
the lower liner portion (200) further comprising a top forefoot portion (306) disposed along a top of the inner liner (130) in a forefoot region (10) and a toe cap perimeter (308) disposed along an outer edge of the forefoot region (10), the toe cap perimeter (308) extending between the bottom (304) of the lower liner portion (200) and the top forefoot portion;
wherein the heating element (408) is disposed between the toe cap perimeter (308) of the lower liner portion (200) and an interior liner layer (500) disposed within the interior of the inner liner (130), wherein the interior liner layer (500) is a mesh; and
a reflective film (508) is disposed between the heating element (408) and the toe cap perimeter (308).





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Broad heated footwear

- Heated boots
- Battery heated shoes
- ...

Toe-region heating

- Toe cap/box heating
- ...

Heat reflection

- Heat reflective foil
- Radiant barrier
- ...

Sensor controlled heating

- Temperature feedback
- Thermistors in shoes
- Closed loop control

Advanced Search

Broad heated footwear

- Heated boots

Toe-region heating

- Toe cap/box heating

Heat reflection

- Heat reflective foil

Sensor controlled heating

- Temperature feedback
- Thermistors in shoes
- Closed loop control

Considerations

Expand keywords with suggestions

Limit to claims only

FullPat database

Limit to alive only

Limit to target markets

Knowledge base:

- [Advanced Search](#)
- [Truncations and operators](#)
- [Fullpat/Fampat](#)
- [Legal status](#)

FAMPAT

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Full-text collection of patent publications from 71 authorities

Fields not available: Molecules*, Measurement, Legal Status, Specific names or company criteria, Counts, Litigations & Oppositions, Cited documents, Filing Details, Unified Patent Court, Standard Essential Patents*

The screenshot displays the 'Advanced search form' interface with two panels. The left panel shows a search query being built with keywords: 'shoe OR boot OR footwear', 'shell OR cover OR casing OR upper OR shoe upper OR shoe body OR vamp OR outer layer', and 'liner OR lining OR insert OR inner layer'. A 'Suggestions' dropdown is open, listing terms like 'barrier layer', 'coating', 'film', 'inner layer', 'insert', 'lining', 'membrane', 'protective layer', 'sealant layer', and 'sheath'. A 'Keywords settings' dialog is also open, showing options to search in Title, Abstract, Claims (checked), Description, and Object of invention. The right panel shows the same search form with a 'Legal status' dropdown set to 'Alive' and a list of countries including EP, NP, CZ, KR, DO, MD, and CV. The bottom of the interface shows '477 patents' and a 'Search' button.

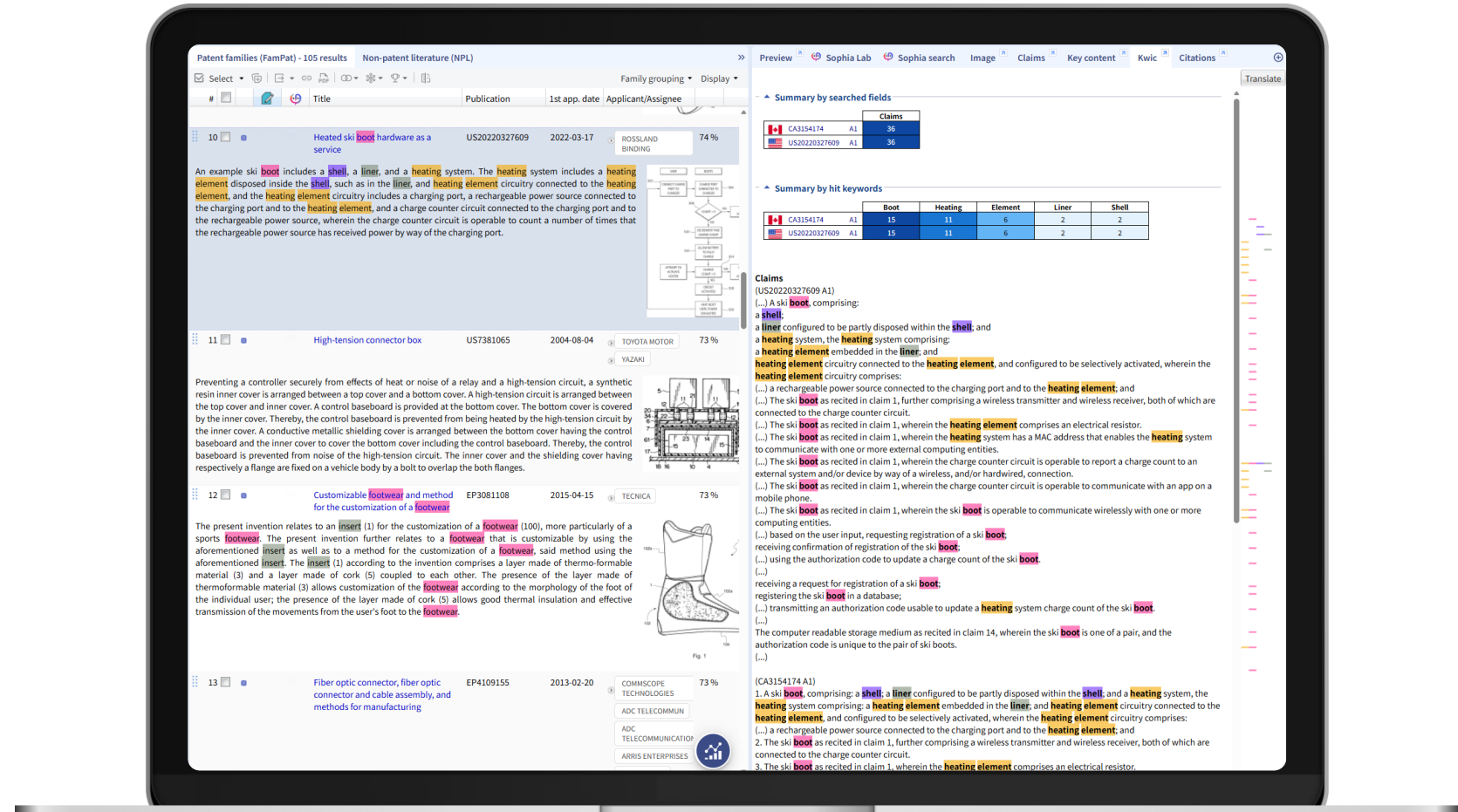
Powerful Review

Even without Sophia Lab 

Orbit Intelligence supports reviewing of numerous documents

- [Highlighting](#) + operators (OR, nW, nD)
- Display adaptability
- [Multi-monitor](#) support

- [KWIC](#) tab
- Key content tab
- [ImageLink](#)
- Keyboard shortcuts



The screenshot displays the Orbit Intelligence software interface, which is used for patent search and document review. The interface is divided into several sections:

- Top Bar:** Includes tabs for "Patent families (FamPat) - 105 results" and "Non-patent literature (NPL)". It also features a search bar and various filters.
- Search Results:** A table showing search results with columns for "Title", "Publication", "1st app. date", "Applicant/Assignee", and a percentage. The results are sorted by relevance.
- Document Review:** A detailed view of a selected document, showing the title, publication number, date, and applicant/assignee. It includes a summary of the document's content, a list of claims, and a table of keywords.
- Claims:** A section displaying the claims of the selected patent, including the title, publication number, date, and applicant/assignee.
- Keywords:** A table showing keywords extracted from the document, including "Boot", "Heating", "Element", "Liner", and "Shell".
- ImageLink:** A section displaying images related to the patent, including a diagram of a ski boot and a photograph of a ski boot.

The interface is designed to be user-friendly and efficient, allowing users to quickly find and review relevant patent information.

Powerful Review

KWIC = Keywords in context

What it does:

The KWIC tab shows where your search terms appear across patent families and how frequently they occur in fields such as titles, abstracts, and claims. Color-coded summaries and in-context text snippets make keyword occurrences easy to spot.

How it supports expert patent searchers:

KWIC enables rapid relevance assessment by showing exactly where keywords appear, especially in critical sections like claims. This helps searchers validate queries, prioritize results, and focus deeper analysis on the most relevant patents.

			Title	Abstract	Key content
WO201304886	A1		4	8	32
US9386819	B2		2	7	53
US20140182162	A1		2	7	46
EP2729030	A1		4	8	
CA2841806	A1		4	8	49

			Heating	Insole	Shoe	Toe	Shoes	Insoles
WO201304886	A1		14	14	7	3	3	2
US9386819	B2		20	11	7	9	3	2
US20140182162	A1		18	13	7	8	3	2
EP2729030	A1		4	4	1		2	1
CA2841806	A1		17	17	7	8	5	3

CPC codes
(WO201304886 A1)

Powerful Review

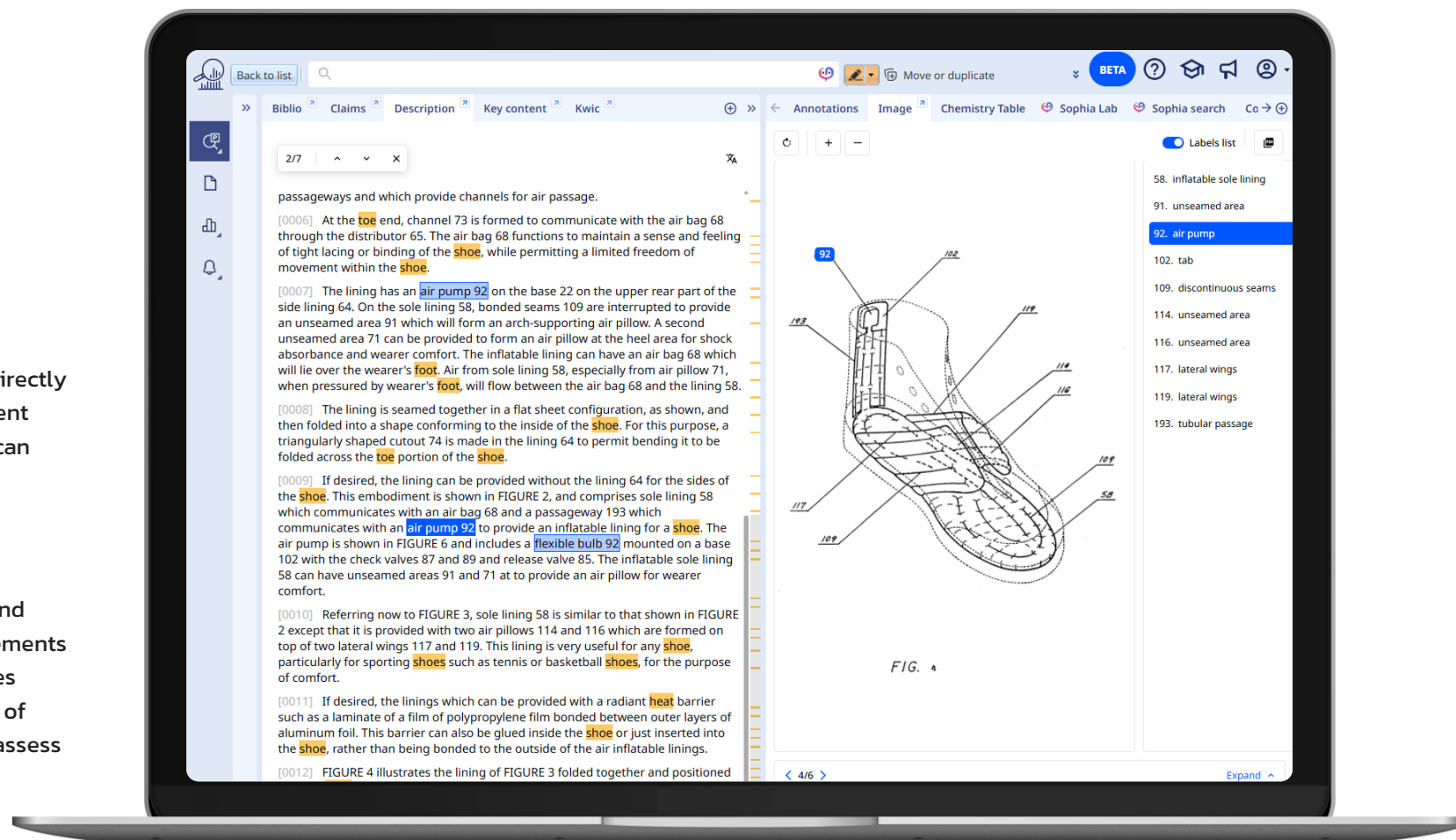
ImageLink

What it does:

ImageLink connects patent drawing labels directly to their corresponding references in the patent text. By selecting a label in an image, users can instantly locate and navigate the related descriptions within the document.

How it supports expert patent searchers:

ImageLink helps searchers quickly understand technical embodiments by linking visual elements to their textual explanations. This accelerates document review, improves comprehension of complex inventions, and makes it easier to assess the relevance of patents during search and analysis.



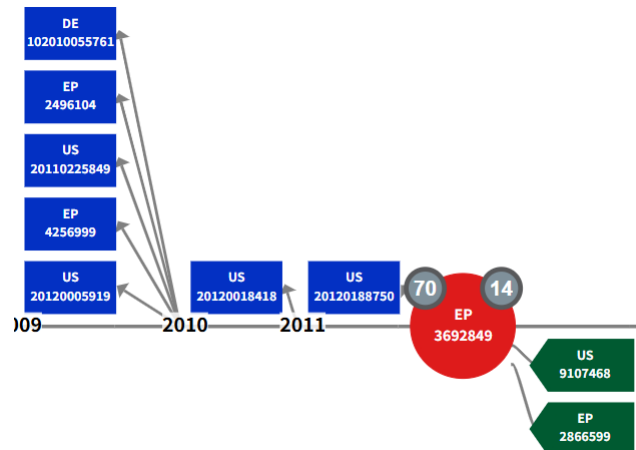
Citation searching

Forward and backwards

Which kind of citation is relevant?

Recommendation

- Both citations can link to art relevant to FTO
- Forward citations cannot be controlled by applicant/examiner



Patents (FullPat) - 47 results										Non-patent literature (NPL)									
Select: 47										Patent grouping									
#										Title	Publication	App. date	Applicant/Assignee						
1	☒	☐								Article of footwear with a heating system	US9427041	2012-08-29	NIKE					100 %	
2	☒	☐								Therapeutic footwear with a heating system	US20250152968	2023-12-08	SHENZHEN G...					99 %	
3	☒	☐								Fussbekleidungssystem mit einem Heizsystem	EP3692849	2013-08-28	NIKE INNOVATE					99 %	
4	☒	☐								Article of footwear with a heating system	WO2014/036049	2013-08-28	NIKE INTERNA...					98 %	
5	☒	☐								Article of footwear with a heating system	EP2866600	2013-08-28	NIKE INNOVATE					96 %	
6	☒	☐								Cooling article and method of using the same	WO2022/011035	2021-07-07	ACHIEVE EQUINE					95 %	
7	☒	☐								Boot for applying medicines	US7302764	2004-10-30	HARRIS BOSSIZ					94 %	
8	☒	☐								Articles with embedded sensors	WO2021/253137	2021-06-18	LULULEMON A...					93 %	
9	☒	☐								Portable self powered line mountable device for measuring and transmitting the undisturbed conductor temperature of electric power line conductors	CA2836259	2013-12-11	DAVIS, MURRA...					93 %	
10	☒	☐								Ultraviolet illuminator for footwear treatment	US10314928	2017-06-26	SENSOR ELEC...					92 %	
11	☒	☐								Heated footwear	WO2024/018192	2023-07-18	LEIGH GREGO...					91 %	
12	☒	☐								Articles with embedded sensors	CA3182222	2021-06-18	LULULEMON A...					91 %	
13	☒	☐								Portable self powered line mountable device for measuring and transmitting the undisturbed conductor temperature of electric power line conductors	US9055808	2013-12-04	DAVIS MURRAY W					89 %	
14	☒	☐								Comfort units and systems, methods, and devices for use thereof	WO2016/201384	2016-06-11	UNIVERSITY O...					89 %	
15	☒	☐								device for protecting the feet of a sportsperson against cold	FR3097410	2019-06-24	GLASIAN JAC...					87 %	
16	☒	☐								Articles with embedded sensors	US20230337755	2021-06-18	LULULEMON A...					87 %	
17	☒	☐								Electric canned water pump with structural canned tube and rubber outer casing	DE112013003549	2013-07-16	HANON SYSTE...					86 %	

Store results in lists

Forward and backwards

FTO update searches

- During subsequent FTO update searches you might run the same or similar query strategies
- Lists offer ability to deduct previous results to only look at new patents via search history

The screenshot displays a patent search interface with a table of results. The table has columns for #, Publication, 1st app. date, Applicant/Assignee, Semantic Match, and Family grouping. The results are filtered to 50 items. A tooltip 'Move or duplicate' is visible over the table. Two 'Portfolio wizard' dialog boxes are open, both showing the 'Duplicate' option selected. The left dialog is titled 'Create list' and shows a tree view of folders including 'Area 52 (0/1/0)' and 'FTO Shoe (3/11)'. The right dialog is titled 'Selection of the target resource' and shows a tree view of folders including 'Inbox - Jens Schlehn (0/2/0)', 'Collaboration (0/0/0)', 'Alert Inbox (4/1/0)', 'Area 51 (1/0/0)', and 'Area 52 (0/1/0)'. The 'FTO Shoe (3/11)' folder is selected in the right dialog.

#	Publication	1st app. date	Applicant/Assignee	Semantic Match	Family grouping
1	EP3692849	2012-08-29	NIKE INNOVATE	Excellent	
2	KR10-1996516	2017-10-18	SSH	Good	
3				Moderate	
4				Moderate	
5				Moderate	
6				Moderate	
7				Moderate	
8				Moderate	
9				Moderate	
10				Moderate	
11				Moderate	
12				Moderate	
13				Moderate	
14				Moderate	
15				Moderate	
16				Moderate	
17				Moderate	

Avoid double review

Deduct lists from search results

Only look at the delta

Recommendation

- Create a project folder and lists
- Use lists to store all results and findings (ir-/relevancy)
- Subtract lists from search results
- Thus, any patent result is only analyzed once!

The screenshot shows a patent search interface with a circular diagram overlay. The diagram consists of five nodes: 'Queries' (red), 'Results' (dark blue), 'Relevancy' (light blue), 'Corpus' (dark blue), and 'Delta' (dark blue). Arrows indicate a clockwise flow: 'Queries' to 'Results', 'Results' to 'Relevancy', 'Relevancy' to 'Corpus', 'Corpus' to 'Delta', and 'Delta' back to 'Queries'. The text 'Test Driven Searching' is centered in the diagram.

The interface includes a sidebar with a file explorer showing a project structure for 'Sophia Document'. The main area displays search results for 'Patent family searches (FAMPAT)' and 'Patent searches (FULLPAT)'. The results table has columns for 'Step #', 'Result(s)', and 'Query'. The 'Query' column contains various search terms and quicklists, such as '84 NOT ((85 OR 86 OR 87 OR 88 OR 89))' and '<QUICKLIST: portfolio/Search projects/FTO Shoe 123.1/4. validation patents (test pool)>'. The 'Result(s)' column shows counts like 91, 90, 89, 88, 87, 86, 85, and 84. The 'Step #' column shows checkboxes for each result.

The sidebar file explorer shows a project structure for 'Sophia Document' with folders like 'Inbox - Jens Schlehahn (2/6/2)', 'ANALYSIS (0/0/0)', 'Co2 (0/1/0)', 'Collaboration (0/2/0)', 'Demo (2/3/1)', 'Search projects (1/1/0)', 'FTO akte (2/5)', 'FTO (4/23)', 'FTO Shoe 123.1 (0/6/0)', 'GA (0/0/0)', 'Mein Ordner (1/2/0)', 'MIB (1/1/0)', 'MLC ALPHA (0/0/0)', 'Neuheitsrecherchen (5/2/0)', 'Qthena (1/4/0)', 'Quantum Report (1/5/0)', 'R&D (0/2/0)', 'Blocked items (1)', and 'Recycle bin'.



FTO searching augmented by **Sophia** features?



Traditional



AI Efficient



AI² Efficient

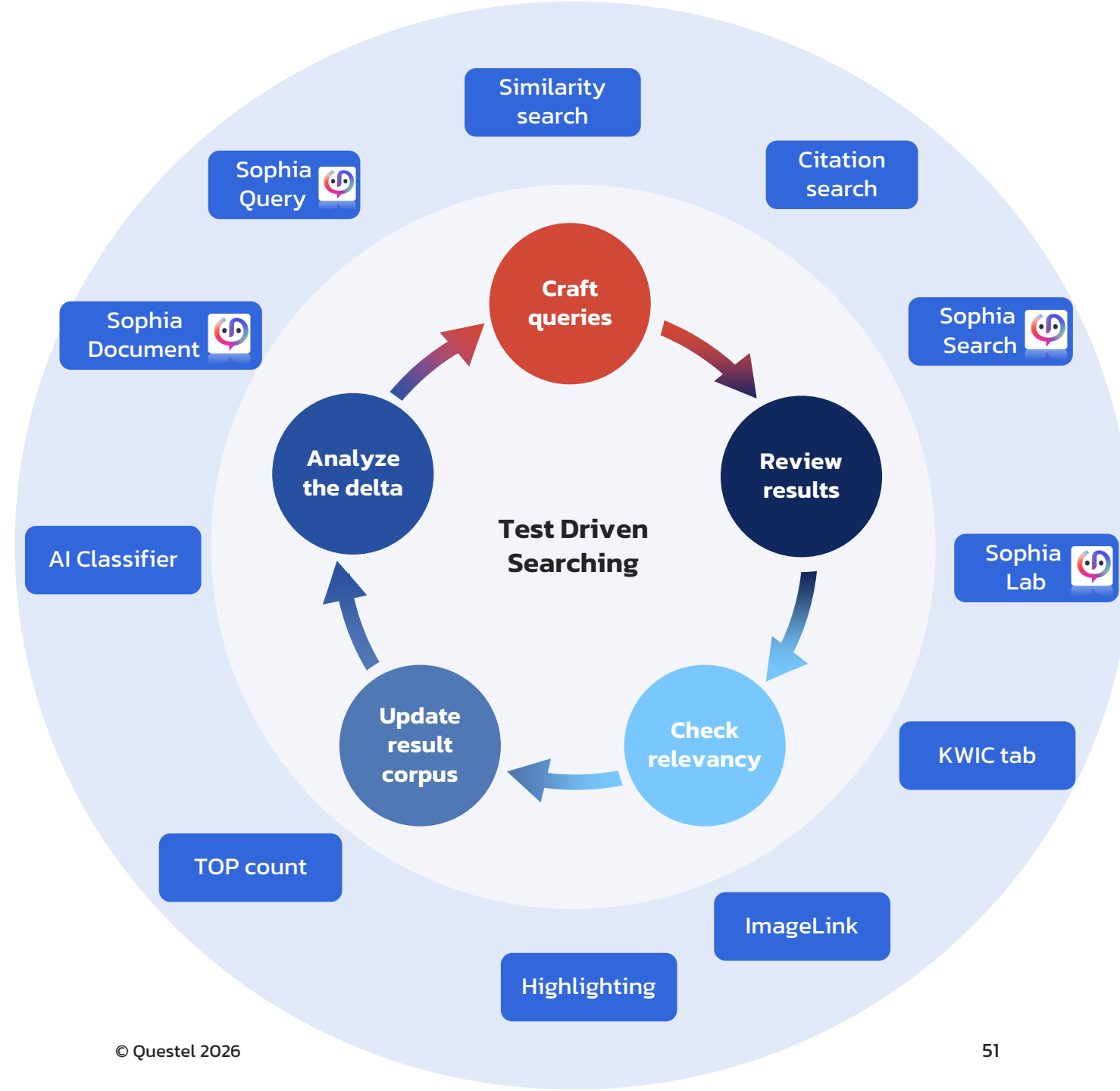


The Sophia Way of FTO

Methodology complemented

Orbit Intelligence supports a **test-driven FTO approach** by combining AI-assisted query building, multi-dimensional search capabilities, and intuitive review tools.

This enables users to effectively refine searches, validate results, and efficiently converge on highly relevant patent sets while reducing manual effort.



ORBIT Intelligence

#1 IP Data Quality

Up-to-date and normalized
IP & NPL data

- 165M+ Patents, 110 patent-issuing authorities, single invention grouping
- Litigation, opposition, data licenses, standard essential patents, grant statistics
- AI enhanced and AI based searches, AI classifier
- ISO 27001 compliant
- 100,000 users – 5,000 clients



Content as a
service API

A data-driven patent world

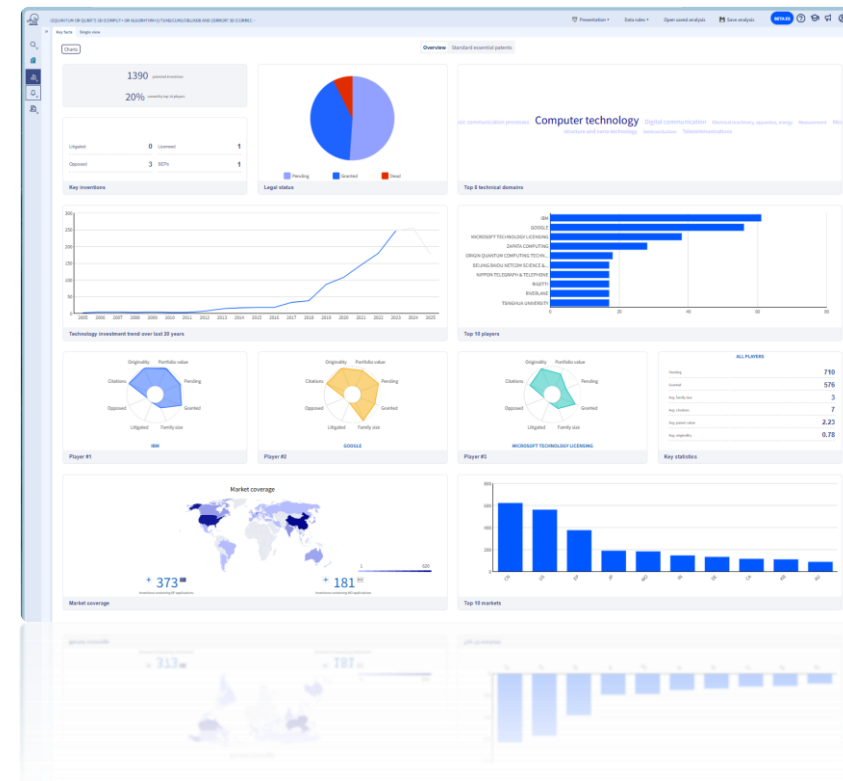
Every day, 8,000 patents are filed, and 1,000 scientific articles are published. You can't read everything, **but you can't miss anything!**

Our mission

Provide you with the best-in-class patent, design and NPL data, exploited by functions boosted by AI to be able to carry out all your patent searches, landscapes, benchmarks, patent watches and valuations

Next steps

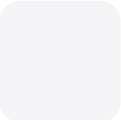
- Schedule an expert demo based
- Get your hands on the tool with a 2 weeks trial including kick-off training
- Receive a commercial offer



Data in Glance

74 full text
111+ biblio
77 industrial designs
60+ legal status

100k+ NPL
480M+ bio sequences
36M+ chemicals
155k+ Standards



Sophia features

– a set of new AI based features
to augment the patent search workflow



Sophia Search is a semantic search that uses embeddings to find similar patents, with Features Mode for deeper analysis



Sophia Query assists in creating compelling patent search queries to help to find relevant patent documents fast.



Sophia Document is a chatbot-based tool that supports patent review by providing answers to questions about the documents (for advanced and premium users).



Sophia Lab is an AI-assistant to help you read patents by providing a patent summary, a claims rewrite and a claims graph.



Benefit from AI support while staying in complete control by our
human-in-the-loop philosophy.

AI policy

We have defined a policy outlining our ethical, legal, and operational commitments to ensure the responsible use of AI in our IP services

- **Compliance & Transparency**

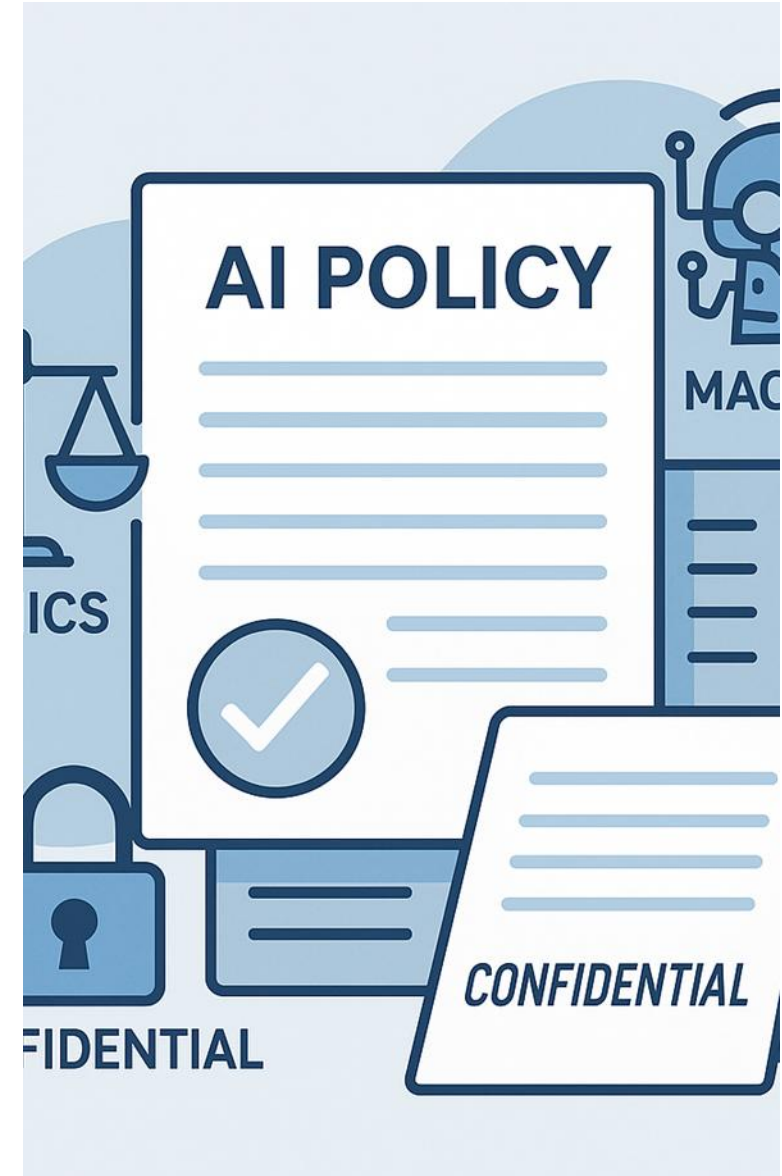
We commit to adhering to the EU AI Act and ensures clear communication on AI capabilities, limitations, and data handling through robust contractual frameworks.

- **Data Security & Privacy**

As an ISO 27001-certified company, Questel enforces strict data protection measures and ensures client data is not used by third-party AI models.

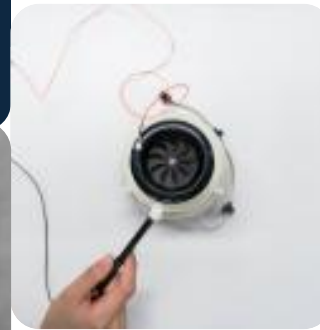
- **Accountability & Governance**

Clients are responsible for verifying AI outputs, while Questel maintains an internal AI committee and ongoing staff training to support ethical AI development.



Need more information?

Questions?



Contact us

help@questel.com

Access additional resources.

www.questel.com/resources/

Visit our website.

www.questel.com

Questel