

+ Remix your reconstruction

Product overview

Smith+Nephew

JOURNEY[◇] II ROX[◇]

Total Knee Solution
with OXINIUM[◇] and
CONCELOC[◇] Technologies





It's time to remix how you think about total knee replacement

Smith+Nephew brings to the stage the latest and greatest in joint reconstruction, a reverse hybrid approach in **JOURNEY[®] II ROX[®] Total Knee Solution**



JOURNEY[®] II TKA (cemented)

Anatomically designed implant that has been demonstrated to reproduce normal kinematics¹⁻⁵ and improve patient function and performance^{6-11*}

OXINIUM[®] Technology

Award winning implant material that provides the wear resistance of ceramic, the durability of metal, and contains virtually zero nickel, cobalt and chromium.¹²⁻²²

CONCELOC[®] Advanced Porous Titanium

Fully randomized porous titanium structure with optimized fixation features made possible through advanced 3D printing

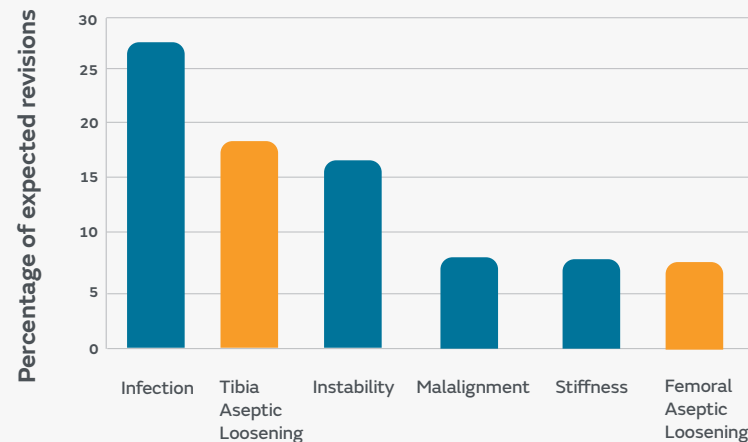
*compared to non-JOURNEY II knees

Seeking an evidence-based approach to TKA

Orthopedic surgeons continue to pursue solutions to both improve patient satisfaction by making the knee feel more normal and reduce some of the most common failure modes within TKA (tibial aseptic loosening, instability, infection etc.).^{23,24}

However, current total knee designs have not addressed both goals. While modern cementless knees seek to improve on tibial aseptic loosening, the inherent implant designs and the materials they are made of have not yet been shown to improve patient satisfaction and performance. Current literature still cites that up to 20% of patients are not satisfied.²⁵⁻²⁷

Typical reasons for revision given in NJR Summary Report^{*23}



*Based on All NJR Bicondylar knees, adjusted for agegroup, gender, indications and implantation year. May not be representative of every potential reason for revision

It's time to rethink how TKA is done,
its time **Remix your Reconstruction.**

JOURNEY[◇] II ROX[◇]

Total Knee Solution
with OXINIUM[◇] and
CONCELOC[◇] Technologies

At Smith+Nephew, we mix things up on our approach to total knee replacements. Combining the demonstrated normal kinematics¹⁻⁵ of JOURNEY II TKA with the cutting-edge technology of CONCELOC Advanced Porous Titanium and the unrivalled material science^{13-16,28-30} of OXINIUM Oxidized Zirconium we build the foundation for outcomes you will want on repeat .

**We call it our
Greatest Hits**

**You'll call it a
Best-in-Class
Knee Construct**



JOURNEY[◊] II TKA

The opening act for JOURNEY II ROX[◊] is front and center, JOURNEY II TKA.

Replicating the kinematics of the normal knee can play a pivotal role in improving patient performance and functionality.

The only way to do this is to design a knee implant as close to the normal knee as possible. JOURNEY II TKA was designed to do just that.

JOURNEY II TKA has been demonstrated to restore the anatomical shapes, position and motion of the normal knee.¹⁻⁵ This anatomic restoration can provide improved clinical outcomes and higher patient satisfaction.^{5-8,10,11*}

Normal shapes^{3-5,31}

JOURNEY II TKA is designed to replicate the anatomic shapes found in the normal, healthy knee. These unique shapes include:

- Anatomic, asymmetric Femur/Tibia^{3-5,31}
- Concave **medial** tibial surface^{3,4,31}
- Convex **lateral** tibial surface^{3,4,31}



Medial concavity promotes medial pivot-like motion patterns^{3,31}

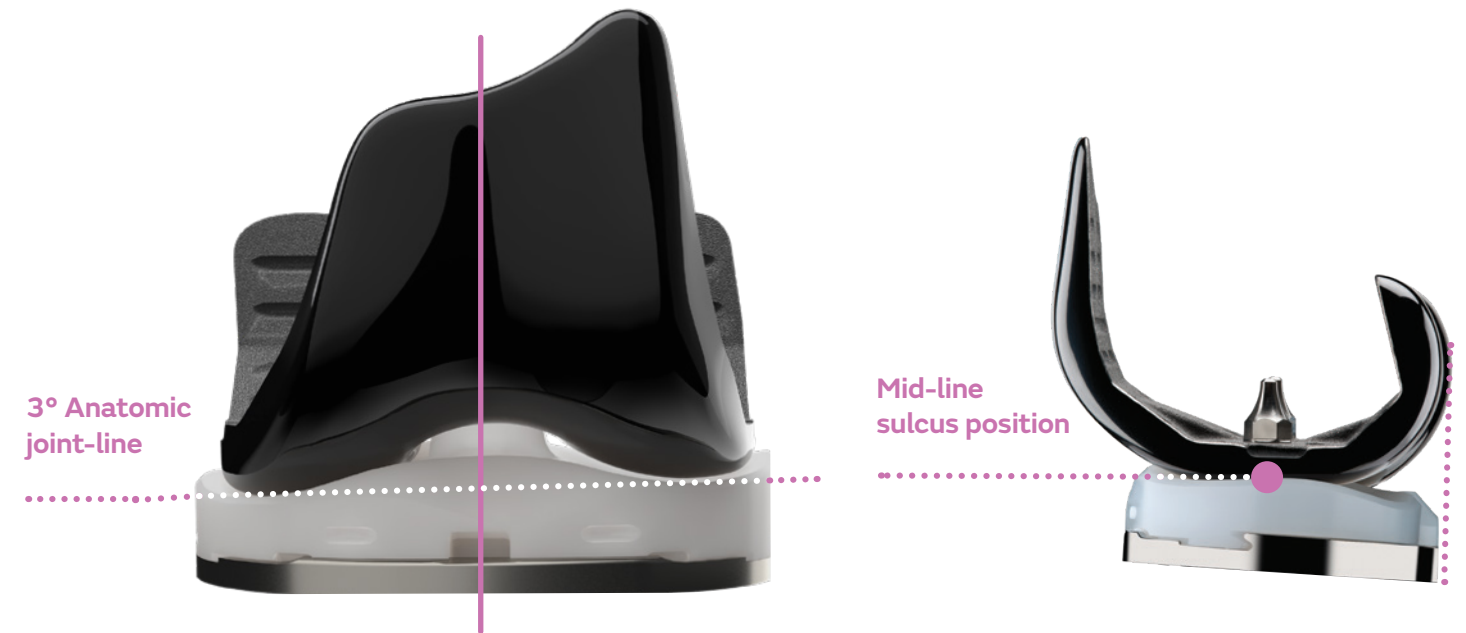


Lateral convexity promotes native rollback^{3,31}

*compared to non-JOURNEY II knees

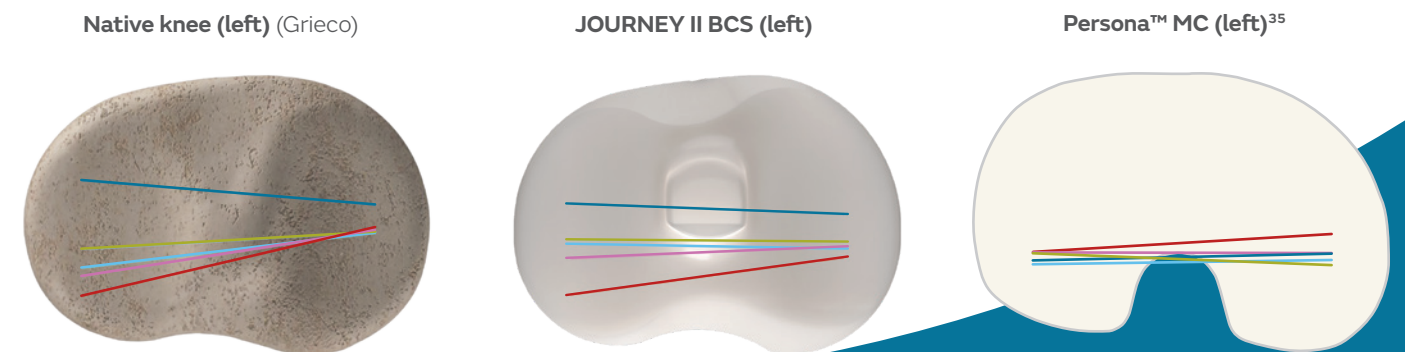
Normal position^{3,7,8,31-34}

JOURNEY[◊] II TKA has also been designed to replicate the mid-line A/P position and 3° varus joint-line found in the normal healthy knee.



Normal motion^{1-5,31}

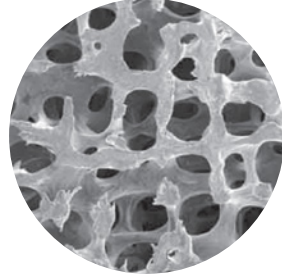
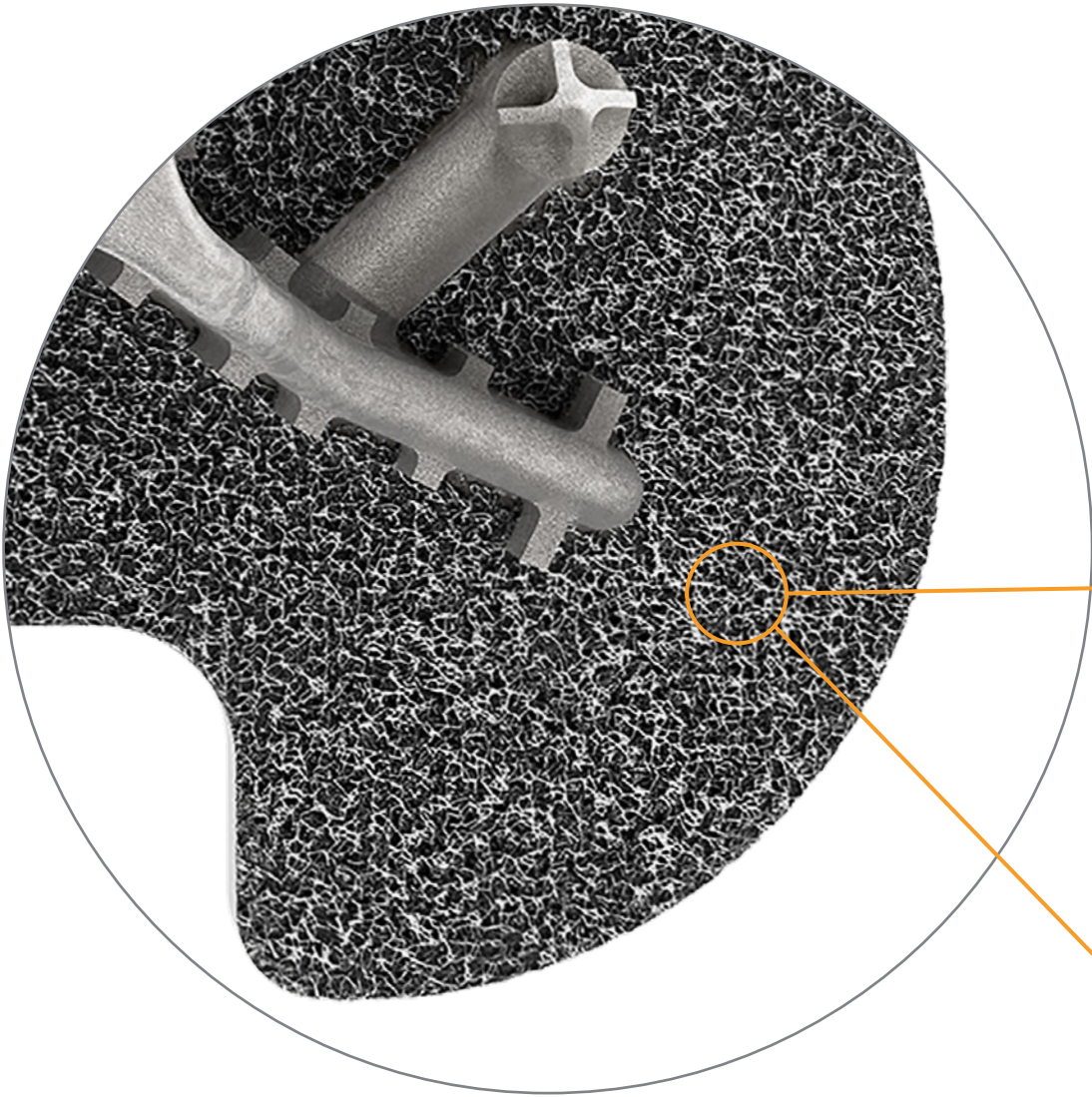
Combining the anatomical shapes and position of the normal knee, JOURNEY II TKA has been able to demonstrate the motion found in the normal knee that is not found in conventional knee designs.



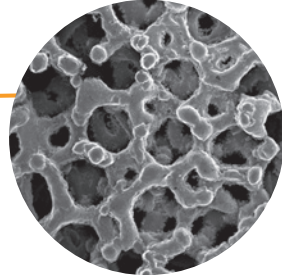
Normal shapes + Normal position + Normal motion

CONCELOC[◇] Technology

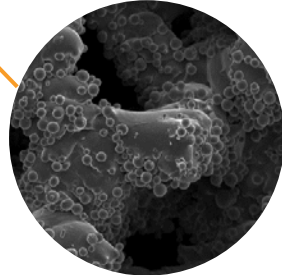
The second act of JOURNEY[◇] II ROX[◇] is the CONCELOC Advanced Porous Titanium baseplate. Smith+Nephew pioneered CONCELOC Advanced Porous Titanium, through an innovative 3D-printing process that creates a **fully randomized porous titanium structure with predictable porosity, pore size and node interconnectivity**. CONCELOC Technology is designed to provide **biological ingrowth and long-term fixation**.^{36,37}



Cancellous bone at 25x magnification

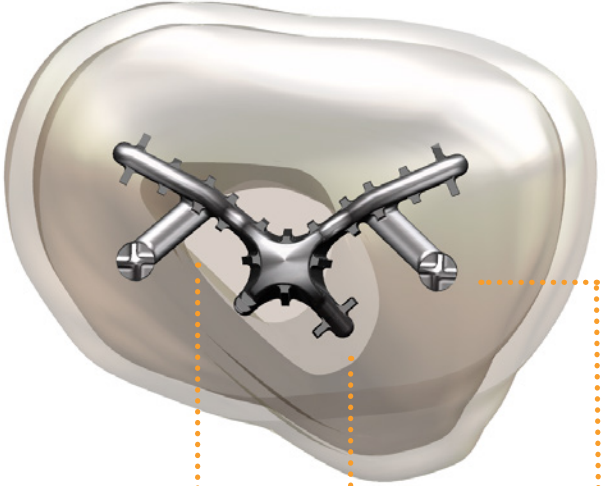


CONCELOC Technology at 25x magnification

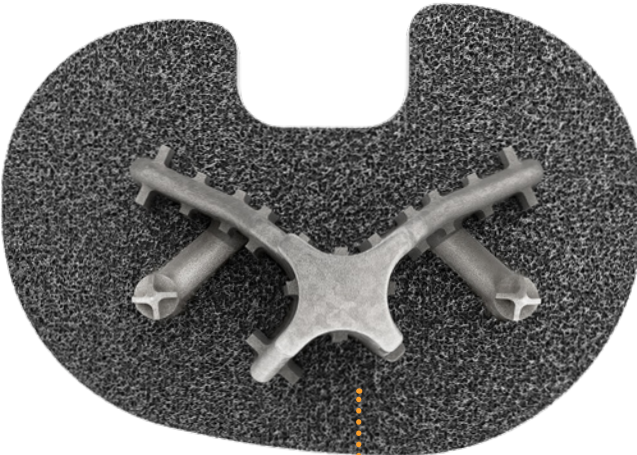


CONCELOC Technology at 80x magnification

Biologic ingrowth and long-term fixation



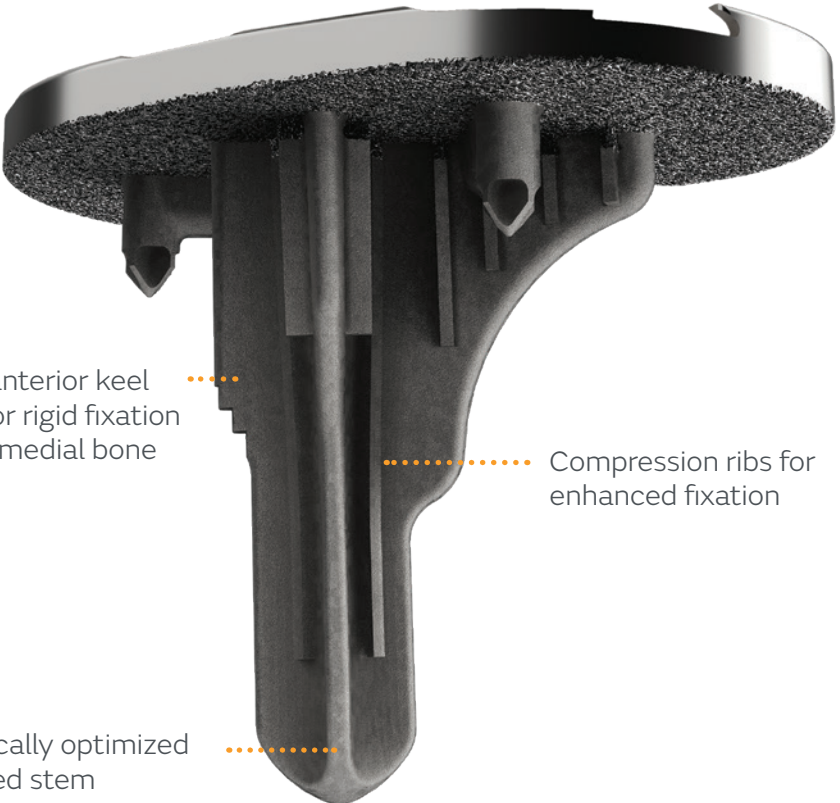
Anterior bridges for strength



Anti rotation press fit pegs to aid in initial stability

Porosity: 80%³⁸
Pore size: 228µm to 633µm³⁹

Lateral anchor into tubercle to maximize anti rotation strength



A novel anterior keel broach for rigid fixation in dense medial bone

Compression ribs for enhanced fixation

Anatomically optimized medialized stem

OXINIUM[◇] Technology

The encore to JOURNEY[◇] II ROX[◇] is exclusive to Smith+Nephew. OXINIUM Technology is an award-winning,¹² advanced implant material.

With more than 20 years of clinical experience across 120 countries, OXINIUM Technology brings **unrivalled material properties** to a portfolio which contains **best-in-class implant designs**.^{13-16,28-30}

Unrivalled material science

Not a coating, OXINIUM Technology provides:^{13-15,17,18,40,41}

- The wear resistance of a ceramic
- The durability of metal
- Corrosion resistance better than ceramic and CoCr
- Virtually zero cobalt, nickel and chromium

45 million

simulated wear cycles tested in knee simulators without any measurable loss in oxide thickness^{13†}

Virtually zero

levels of nickel, cobalt and chromium,¹⁷ common metal sensitizers detected in 10-15% of the population⁴³

4900x

more abrasion resistant than cobalt chrome^{‡42}

2x

the surface hardness of cobalt chrome^{14,19}



Proven clinical performance

OXINIUM Technology delivers proven clinical performance in patients across a range of age and activity expectations emphasizing the importance of having **OXINIUM**.

A*/A ODEP Rating

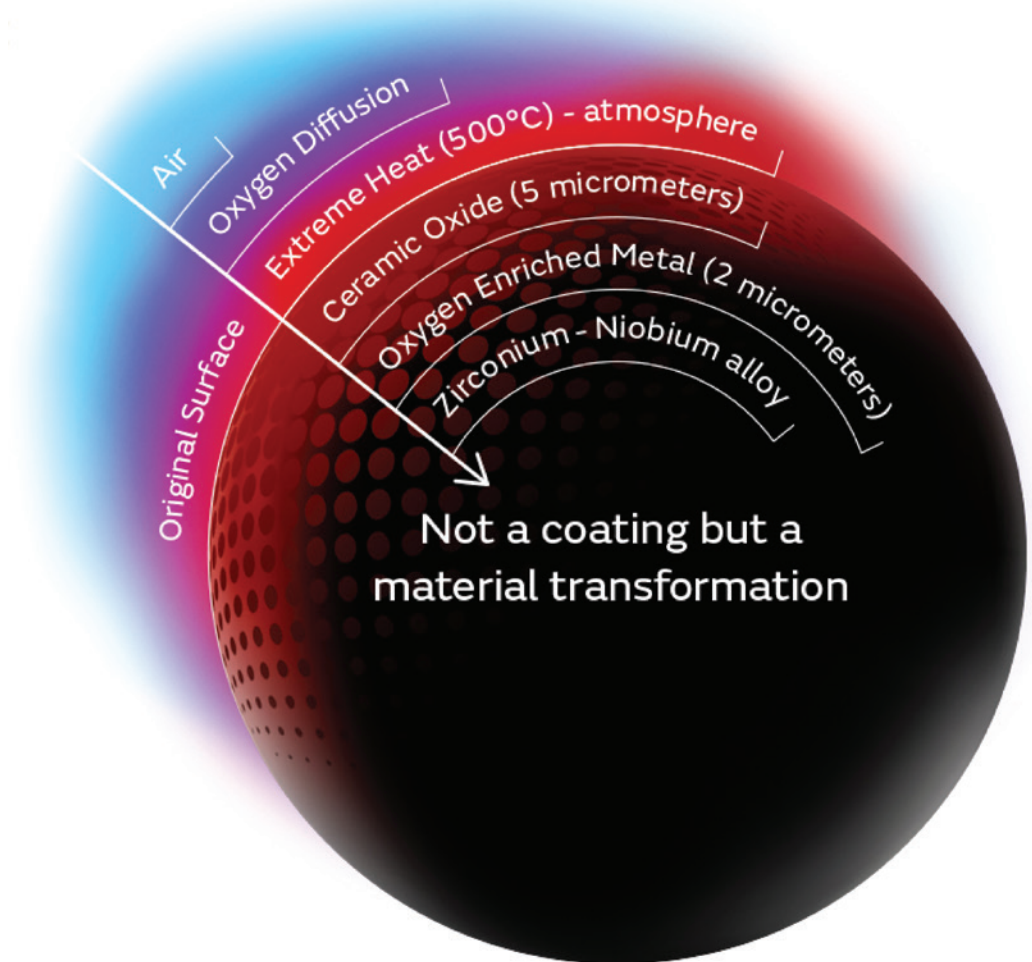
Independent assessment shows that OXINIUM[◇] knee implants perform at or above top levels of survivorship up to 15 years post-implantation.⁴⁴

2X Lower

Revision rate than cobalt chrome in patients younger than 65 years old⁴⁵

Significantly lower

risk of revision for infection and femoral aseptic loosening versus the equivalent CoCr (p<0.05)⁴⁶



‡After 10M cycles of pin-on-disc lab testing using bone cement.

†The results of in vitro wear simulation testing have not been proven to quantitatively predict clinical wear performance.

Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Smith+Nephew representative or distributor if you have questions about the availability of Smith+Nephew products in your area.

We thank the patients and staff of all the hospitals in England, Wales and Northern Ireland who have contributed data to the National Joint Registry. We are grateful to the Healthcare Quality Improvement Partnership (HQIP), the NJR Steering Committee and staff at the NJR Centre for facilitating this work. The views expressed represent those of Smith+Nephew and do not necessarily reflect those of the National Joint Registry Steering Committee or the Health Quality Improvement Partnership (HQIP) who do not vouch for how the information is presented.

The data used for this analysis was obtained from the National Joint Registry ("NJR"), part of the Healthcare Quality Improvement Partnership ("HQIP"). HQIP, the NJR and/or its contractor, Northgate Public Services (UK) Limited ("NPS") take no responsibility (except as prohibited by law) for the accuracy, currency, reliability and correctness of any data used or referred to in this report, nor for the accuracy, currency, reliability and correctness of links or references to other information sources and disclaims all warranties in relation to such data, links and references to the maximum extent permitted by legislation including any duty of care to third party readers of the data analysis.

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