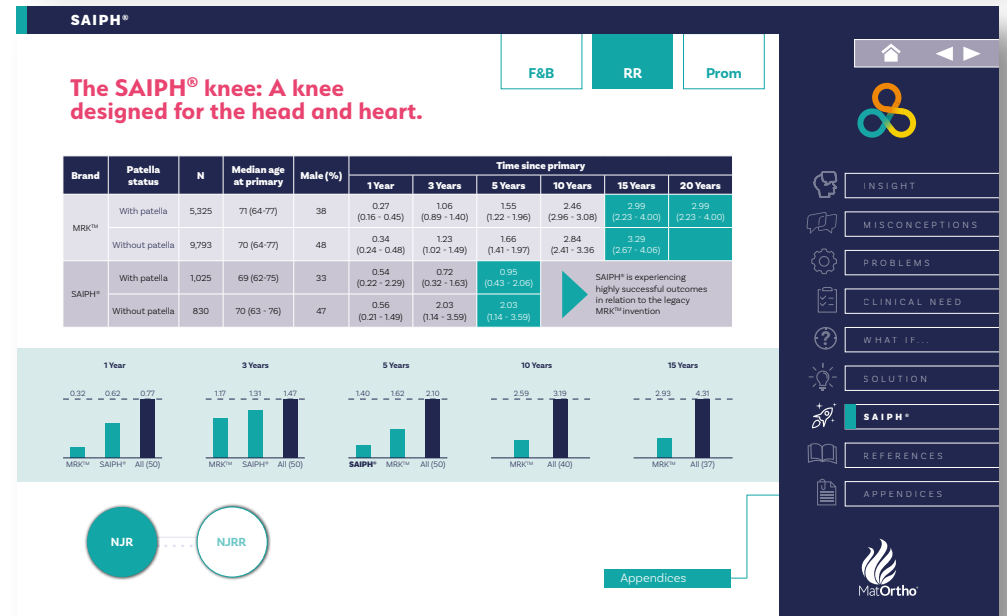
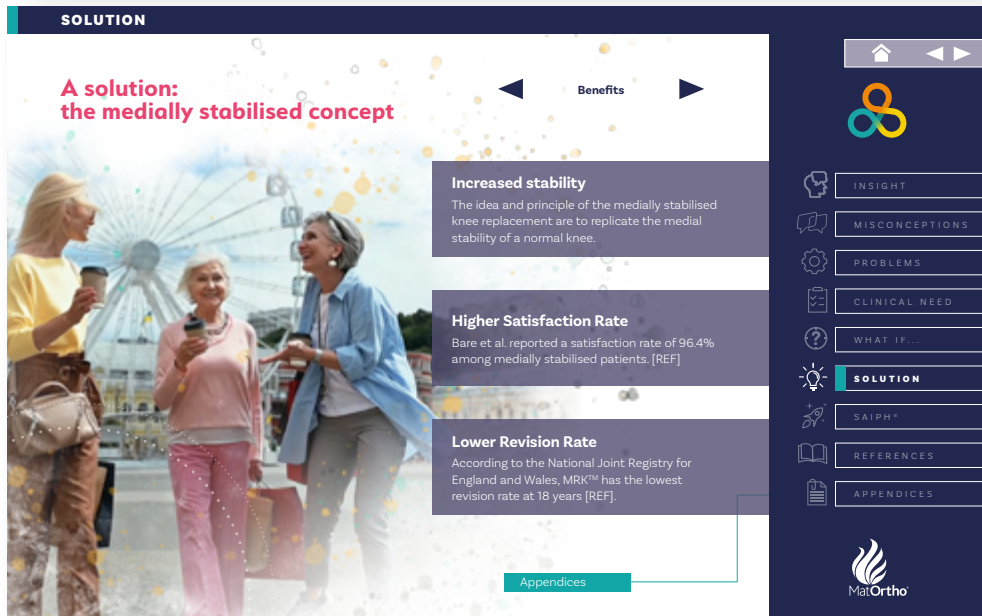




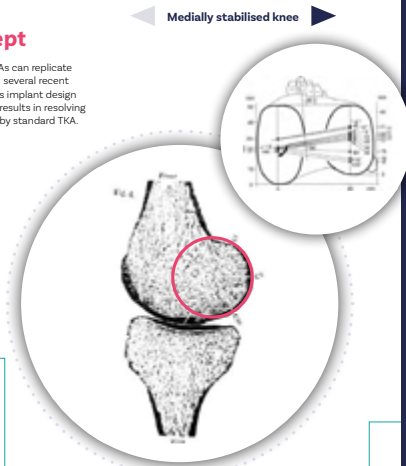
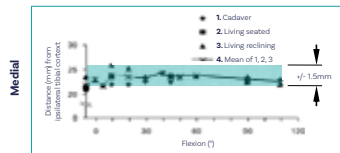
# **George Walkerdine**

## **Portfolio**

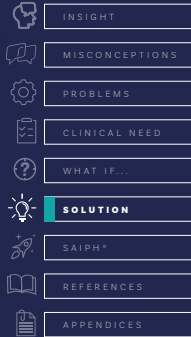


## A solution: the medially stabilised concept

Medially stabilised TKAs can replicate the knee's function. In several recent case studies [REF], this implant design has shown promising results in resolving the problems caused by standard TKA.



Appendix II

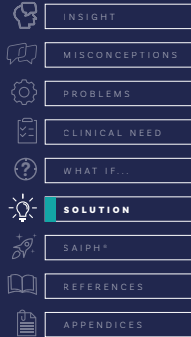


## A solution: the medially stabilised concept

Although in the same "class", there are subtle differences between the articular geometry and PFJ kinematics of different MS TKAs and grouping them does not allow individual comparisons.



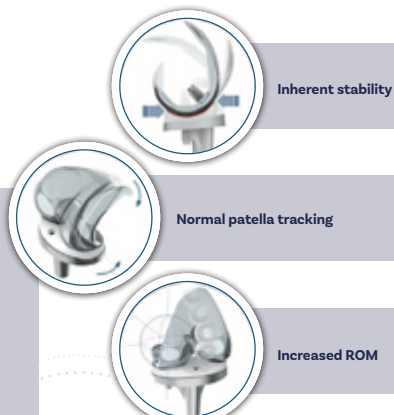
## Appendices



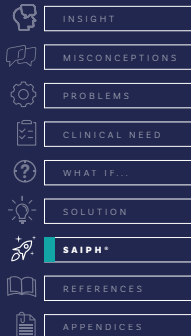
**The SAIPH® knee: A knee designed for the head and heart.**



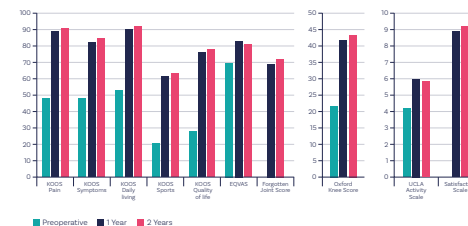
Natural lateral patella tracking without excess lateral tissue stresses and no clunk or crepitus due to box cut.



## Appendices

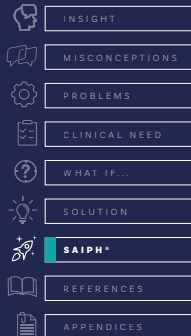


**The SAIPH® knee: A knee designed for the head and heart.**



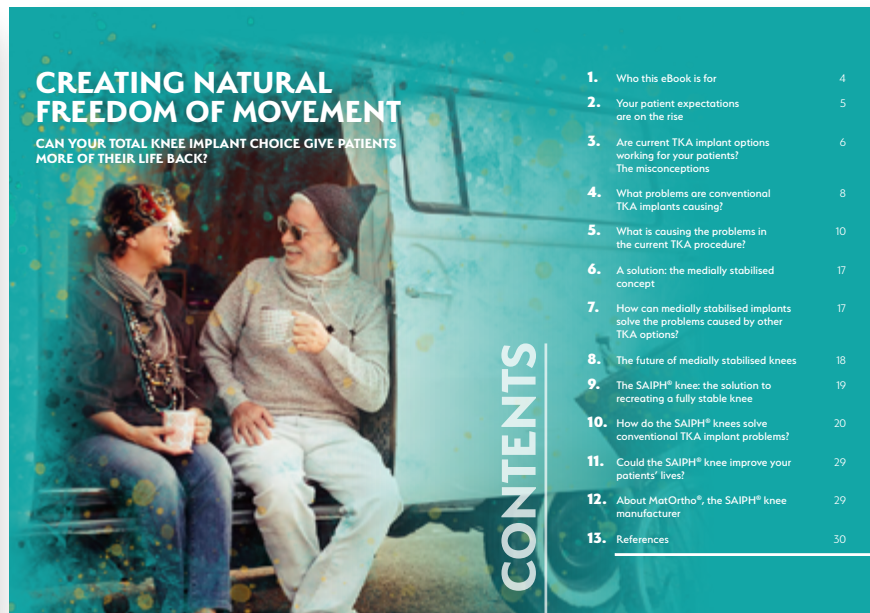
voted **'good - excellent'** after **2 years**.

Appendix VI









# CURRENT PROBLEMS

## Why do we need to solve TKA implant problems as soon as possible?

**To reduce the impact on our patients**

There are currently more dissatisfied knee replacement patients than dissatisfied hip replacement patients<sup>1,2</sup>.

Studies tell us this is because:

- The patient's knee replacement functionality is limited after the operation<sup>3</sup>
- Patients suffer reduced stability of knee replacement compared to their native knee<sup>4</sup>
- This can impose significant postoperative limitations

All of which results in the need to lower patient expectations<sup>5</sup>.

When looking at why certain patients are dissatisfied with the procedure, you may think that patients have unrealistic expectations for the outcome.

However, the truth is they just want to be able to return to their normal day-to-day lifestyle.

We understand that you want to meet your patient's expectations.

And we believe it is our job to help you meet them.

## Do you sometimes:

- 1 Question what the future of TKA will look like?
- 2 Wonder if you are genuinely offering the best possible care and outcomes?
- 3 Wonder if you are happy to continue doing what you've been doing? Employing dated technology which doesn't currently appear to provide the function your patients expect?
- 4 Question if you provide long-term satisfaction to your patients, resulting in happier patients?

**Many surgeons are dissatisfied with implant performance**

With a dissatisfaction rate of up to 20%, it would not be surprising to know that many surgeons are unsatisfied. They may not be content with the status quo on TKA procedures and need help finding innovative ways to perform TKA due to complex and pioneering implant innovation.

Actual data has shown that the demand for TKA is increasing, with a predicted 673% increase in cases in the USA from 2005, leading to 3.48 million cases by 2030<sup>6</sup>.

Let us imagine we don't address the problems stated above. Would we expect more patients to have issues with their TKA? Would this issue future patients to be hesitant when considering surgery?

Might this cause unnecessary delay leading to disease worsening, poorer quality of life, and negative impact on health, general well-being, and lifespan<sup>7,8</sup>?

**What is a possible way forward?**

2005      2023  
673% increase in TKA cases

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# SOLUTIONS

## A SOLUTION: THE MEDIALLY STABILISED CONCEPT

One concept that could solve standard TKA problems is the medially stabilised design. In several recent case studies<sup>9</sup>, this implant design has shown promising results in resolving the problems caused by standard TKA.

**How does it work?**

Medially stabilised total knee replacements are designed to replicate the normal physiological kinematics of the knee. By stabilising the medial compartment of the knee, parasagittal motion is eliminated<sup>10</sup>.

Medially stabilised TKAs can replicate the knee's function. They are designed with:

- A ball-in-socket compartment that is highly congruent, providing increased overall stability through the range of motion
- A lateral compartment that is characterised by less conformity to provide a natural freedom of movement.

Both these compartments work together to reproduce the physiological biomechanics of a normal knee.

**How can medially stabilised implants can replicate the knee's function**

## How can medially stabilised implants solve the problems caused by other TKA options?

**Higher satisfaction rate**

In a 274-patient multicentre study, Bae et al reported a high degree of satisfaction. This study reported a satisfaction rate of 96.4% among medially stabilised patients<sup>11</sup>.

This study's results are further supported by a recent article by Sali Bhatta and Vijay Kumar, which compares satisfaction scores between the medially stabilised and posterior stabilised TKA<sup>12</sup>. The study results show that the medially stabilised TKA has higher patient satisfaction and expectations than posterior stabilised knees<sup>13</sup>. The study stated that this higher satisfaction score could be related to the better replication of natural knee kinematics the medially stabilised knees provide.

**Increased stability**

The idea and principle of the medially stabilised knee replacement is to replicate the medial stability of a normal knee.

Due to this principle, the movement of a medially stabilised knee replacement is asymmetric during flexion, whilst in a normal knee.

This principle is supported by a study by Fahad Hossain, which states that higher stability is observed in the medially stabilised compared with a posterior stabilised knee replacement<sup>14</sup>.

The study concluded this increase in stability is due to the design having a 'conforming, congruent, medial tibiofemoral articulation with a raised anterior and posterior lip'.

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# SOLVING PROBLEMS

## 95% of patients with a SAIPH® Knee are satisfied<sup>50,61,67</sup>

**Higher Overall Patient Satisfaction compared to conventional TKA**

A visual analogue scale (VAS) was used in a 2-year follow-up study by Walter et al. to measure patient satisfaction with SAIPH® knees<sup>15</sup>.

It reported that 95.5% of the cohort responded positively, which the authors commented was unusual in their previous knee cohorts and equivalent to satisfaction responses for their hip cohorts (95.2% satisfaction score).

In another study by Bae et al, which has a cohort of 274 patients fitted with the SAIPH® knee implants, it was reported that 97.2% of patients described their knee problems as better than before surgery<sup>11</sup>. Furthermore,

9 out of 10 patients described their 'knee problems' as 'much better' two years after the surgery<sup>16</sup>.

**Higher Patient-Reported Outcomes**

Patient-reported outcome measures (PROMs) provide a means to measure the success of knee surgery objectively.

In a study by Katchky et al., a cohort of 100 SAIPH® knee patients' data was reviewed two years post-operation<sup>17</sup>. The study reported the patient's PROMs, including KOOS, WOMAC, Oxford Knee Score, Forgotten Joint Score (FJS) and EQ-5D.

Results show a significant improvement in PROMs measures.

This study's Forgotten Joint Score of the SAIPH® knee patients is similar to comparative research<sup>18</sup>. It commented that the score was considerably better than previously reported TKA cohorts' level to reports for unicondylar knee arthroplasty patients<sup>19</sup>.

Supporting the study by Katchky et al., the study by Bae et al was run between December 2015 and July 2019, in which 293 knee patients completed the study<sup>11</sup>.

The study recorded PROMs, including KOOS, OIS, UCLA Activity, EQ-5D-5L, and range of motion. The measurements were taken preoperatively and at one and two years postoperatively. Improvements were observed in all outcome measures, consistently achieving excellent scores.

When comparing the PROMs of the SAIPH® knee patients with other TKA designs, a KOOS study by Mark et al on 64 patients found that the MBS™ and the SAIPH® knee implants resulted in better patient-reported satisfaction and functional scores compared to the rotating platform and cruciate retaining designs<sup>20</sup>.

Patients with the SAIPH® knee implants have a better quality of life than those with conventional TKA implants post-operation.

A study performed on 103 patients randomly selected to receive a rotating (EO knee) or the SAIPH® knee (E3 knee) TKA was conducted to determine if the SAIPH® knee would benefit the patients' mobility<sup>21</sup>.

The study measured PROMs as a primary measure of the study (including the KOOS, KOOS-32, KOOS-Shortform, WOMAC, WOMAC, OIS, EQ-5D-5L, and UCLA Activity Scale). The measurement was taken preoperatively and after one year in a follow-up. In addition, the patient's FJS and EQ-5D satisfaction score was also taken during the follow-up.

The study reported no significant difference in scores between the groups for the majority of commonly-used PROMs measures. However, the SAIPH® knee patients reported significantly better outcomes in the KOOS Quality of Life section. These patients also scored significantly better for the Forgotten Joint Score overall.

Notably, the SAIPH® knee patients reported they were less likely to modify their lifestyle to accommodate their knee replacement<sup>22</sup>.

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# SOLVING PROBLEMS

## Orthopaedic Data Evaluation Panel (ODEP)

The Orthopaedic Data Evaluation Panel is an independent, multidisciplinary panel of experts who evaluate and provide ratings for TKA devices.

The ratings are based on the number of years the product has been evidenced and cohort size (the number of available patients for the year being rated) to define the 'strongest' evidence for a given implant and where the evidence shows that the revision rate is below the defined threshold for that time point. A star may be awarded if the criteria for the specified rating is evidenced with a large cohort. However, this does not mean that the revision rate is lower than devices without a star but that have a smaller cohort.

**How the ratings are based:**

- The number represents the number of years for which the product has been evidenced.
- The letter represents the strength of evidence.
- The star denotes a benchmark replacement rate of less than 1 in 100 (1%) at 10 years.

**ODEP ratings of all SAIPH® knee constructs are as follows:**

- ODEP 7A
- ODEP 7A
- ODEP 7A

To introduce the new technology safely, MedOrtho® released the SAIPH® knee in limited availability and under close monitoring for the first ten years.

ODEP separates devices into their available constructs, which is why the SAIPH® knee UK data are divided into the following categories:

- Procedures with no patella.
- Procedures with a cementless patella.
- Procedures with a cemented patella.

This means that the cohorts on which the ODEP rating is based are relatively small, as each cohort represents a different construct. Even after being divided into separate categories with smaller patient cohorts, it is found that all the SAIPH® knee constructions have a considerably lower revision rate than the requirement for each rating. The SAIPH® knee has a current rating of 7A and is on track to receive an ODEP rating of 8A. The SAIPH® knee strength of evidence is in having such low revision rates and in having a much wider range of metrics, such as PROMs and satisfaction.

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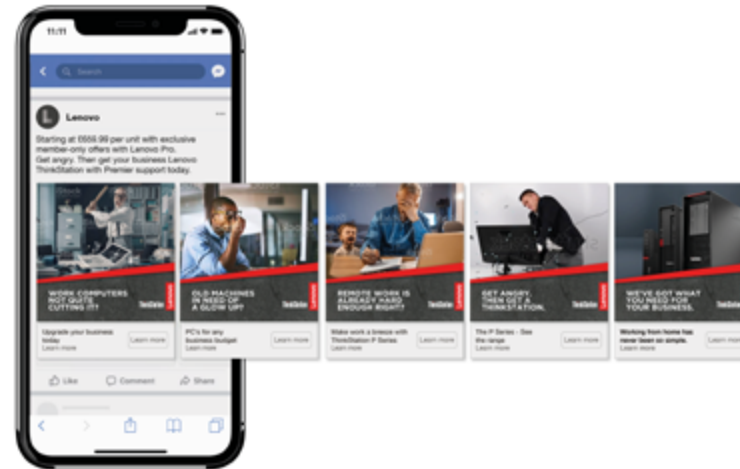
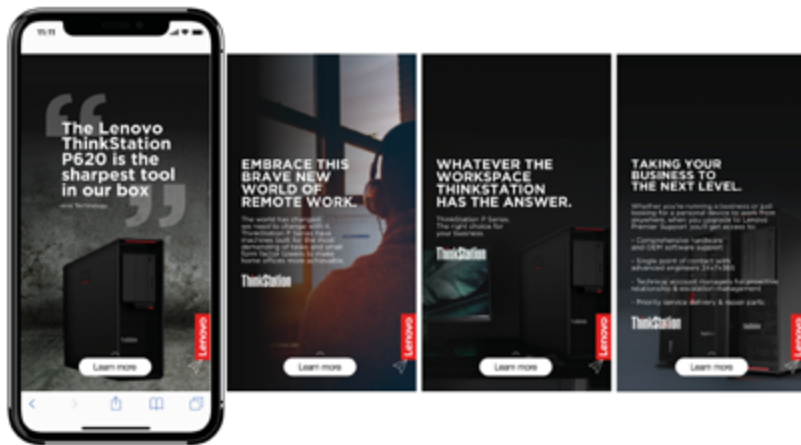
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**Lenovo** // Conceptual Design, Digital, OOH, Social Media





### LOGO USAGE

- This is our primary logo. Used where space is ample and on larger pieces such as billboards.  
Ideally used on portrait layouts.
- This is our secondary logo. Used where space is more limited and on smaller pieces such as social assets.  
Ideally used on landscape layouts.

**ALSO OK...**

Using simply our Ident on its own is perfectly fine. It also is with 'ours' or 'is', simply works well.

The stationary typeface can be used sparingly though only when needed or when that typeface works best in a particular design.

### TYPOGRAPHY & FONTS

**HEY YOU**

**IN OUR BRANDING WE USE A RANGE OF TYPOGRAPHY.**

**IT GIVES OUR BRAND DEPTH, TEXTURE AND ALLOWS US TO BE MORE EXPRESSIVE AND FIERCE WITH GREATER FLEXIBILITY.**

Sometimes we need to use the small print. We use this font for general copy. The print and any other **smaller** details of text.

This font is **clear and unobscured** for easy reading. It doesn't demand an overwhelming amount of attention so in this hierarchy of typography, this font would naturally be well back.

**DOWNCOMER REGULAR:** This is the bold, brush and claret font we use for low word count headlines. Use sparingly (up to 4 words) as longer bodies of copy with this text will become harder to read.

**MONTERRAT BLACK:** This is the font we use for most headings and CTAs. This font demands attention as the example shows. It would look great in a short sentence block for important information.

**BERAS KAI:** This is the font our logo typeface is made from. It works well as a secondary heading font when Montserrat Black does not work. This font adds only words well for subheadings.

**MONTERRAT EXTRALIGHT / LIGHT:** This font is used for all of our larger bodies of text, the print, or anything where we need to use a little more finesse with our words. Using **Montserrat Bold** like the example is great for highlighting anything important.

### IMAGE TREATMENT

Any images that do not have the purpose of sale, such as product images on the website will be edited as below to match our brand: high contrast, black and white images with our brands blue at a 40% opacity overlay.

### EMBELLISHMENTS & PATTERNS

These patterns and embellishments are to be used sparingly throughout all of our designs.

The red having embellishments are to be sparingly placed across designs in different sizes, though always keeping stroke weight in tact.

The background block patterns are to be used between large bodies of text or in corners - but no more than 2 of these block patterns per design.

### COLOUR PALETTE

**HEAVY REDDISH**  
HEAVY REDDISH BLUE  
HEAVY REDDISH BLUE

Use this red alongside our blue whenever needed to create great design. This red works perfectly for punchy headings and CTAs.

**HEAVY WHITE**  
HEAVY WHITE BLUE  
HEAVY WHITE BLUE

Use white for most of our headings and bodytext as it contrasts nicely from our blue and red.

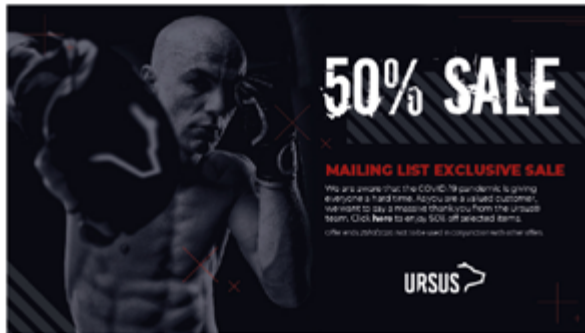
**HEAVY REDDISH**  
HEAVY REDDISH BLUE  
HEAVY REDDISH BLUE

Black is used for headings and bodytext where higher backgrounds. Use occasionally on other assets such as our logo and embellishments.

**30% OPACITY OF...**  
HEAVY REDDISH  
HEAVY REDDISH BLUE  
HEAVY REDDISH BLUE

This colour is only used above our blue and red. Use sparingly on embellishments and text boxes.

MAILER ASSET



SOCIAL MEDIA - INSTAGRAM STORIES



UI DESIGN



OOH DESIGNS



OOH DESIGNS

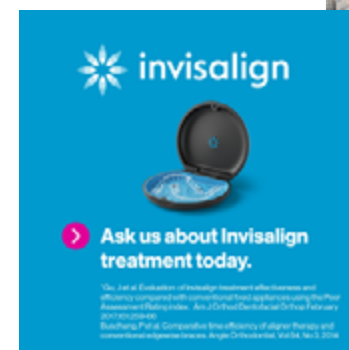
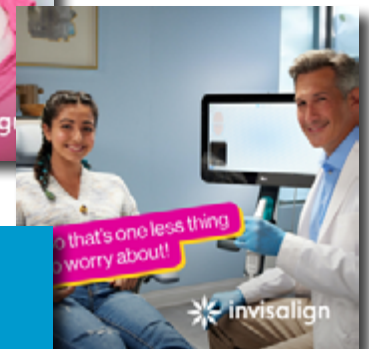
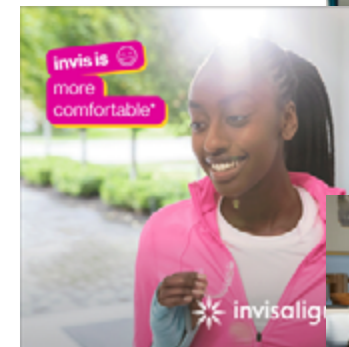
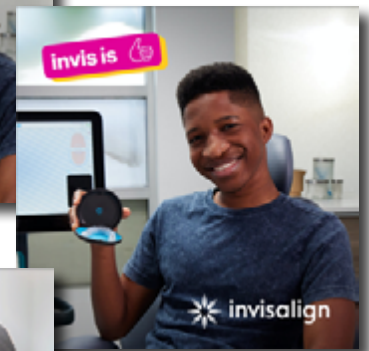
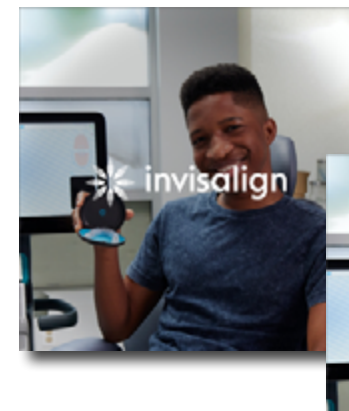
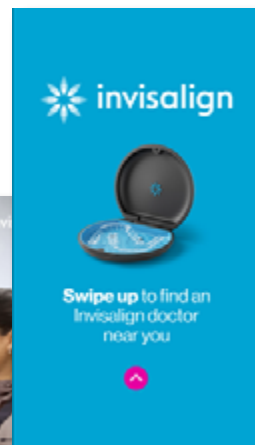
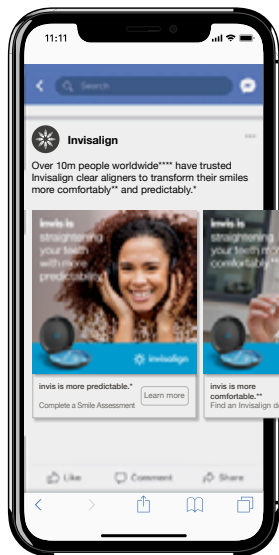


SOCIAL MEDIA - FACEBOOK / INSTAGRAM



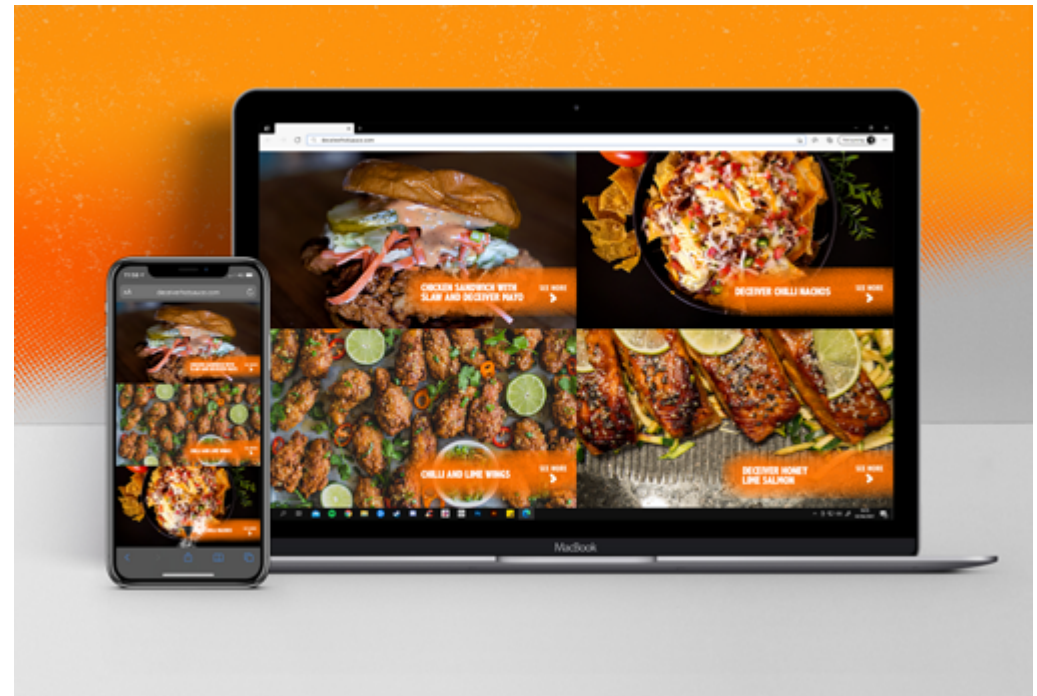
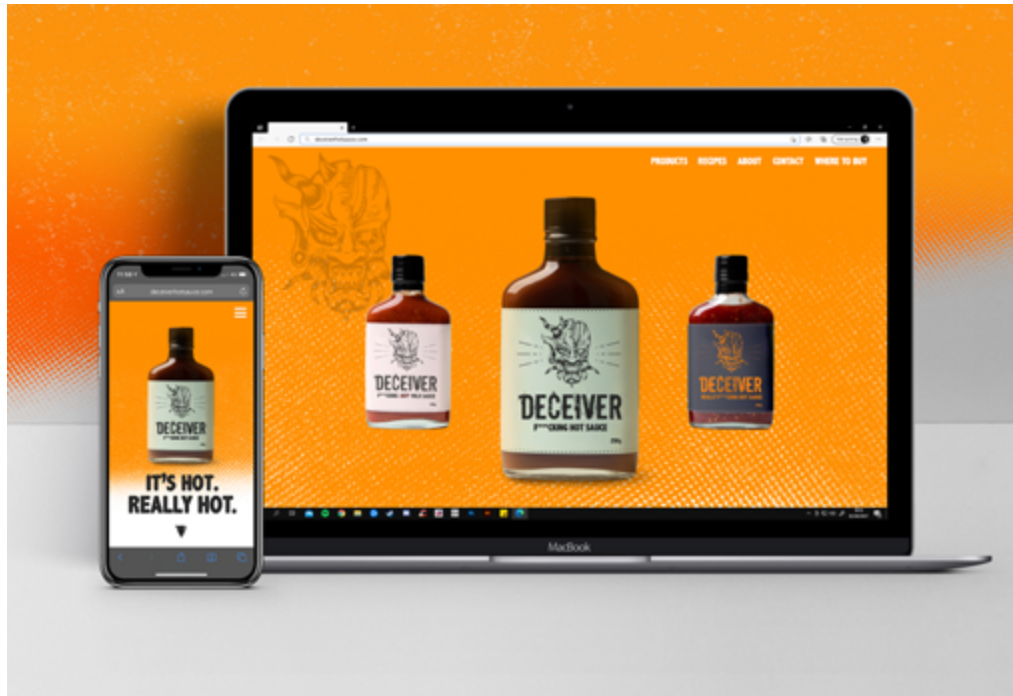
[Full project here](#)

**Ursus** // Branding, Digital, OOH, Web Design



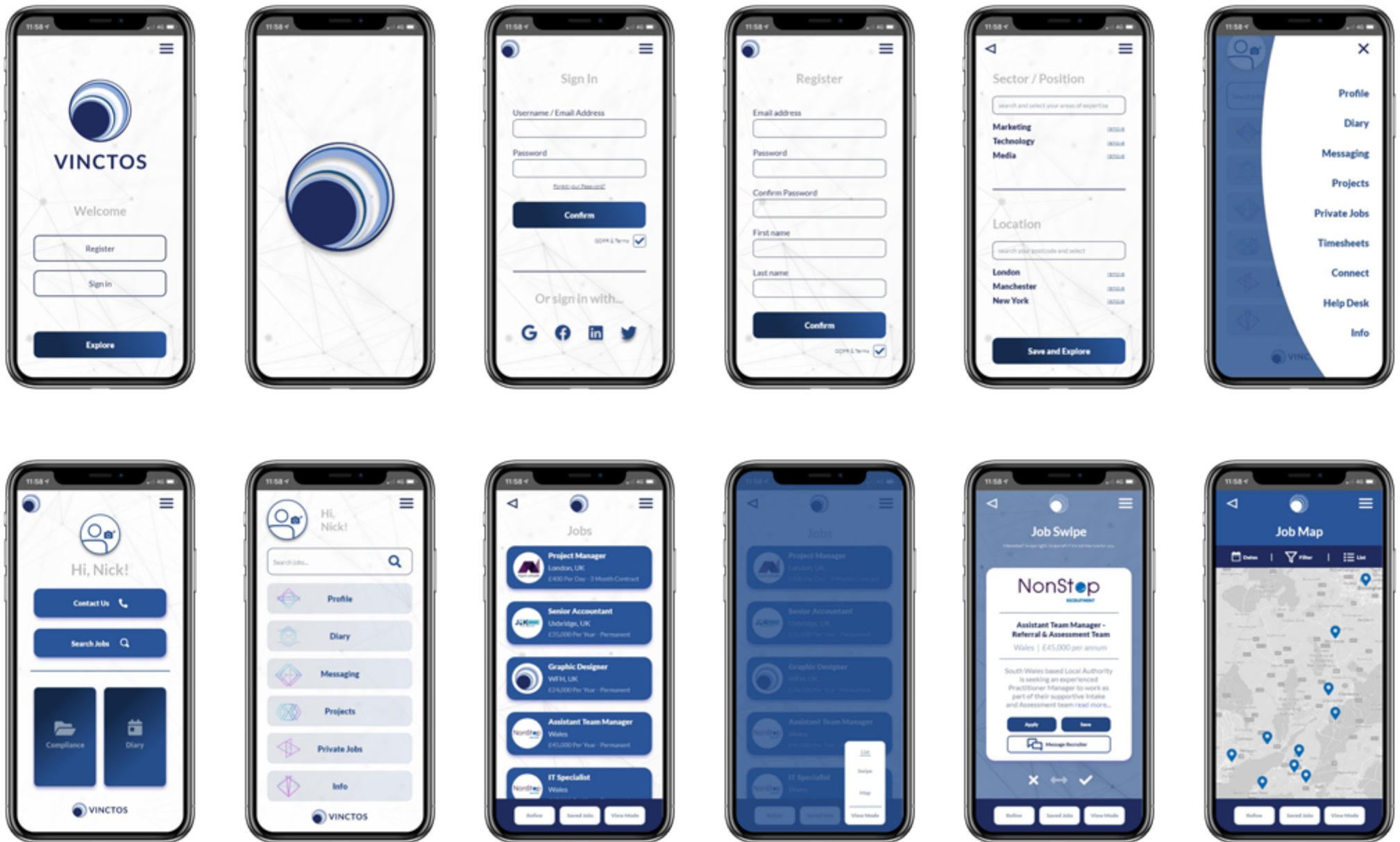
Many more Invisalign assets available upon request.













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