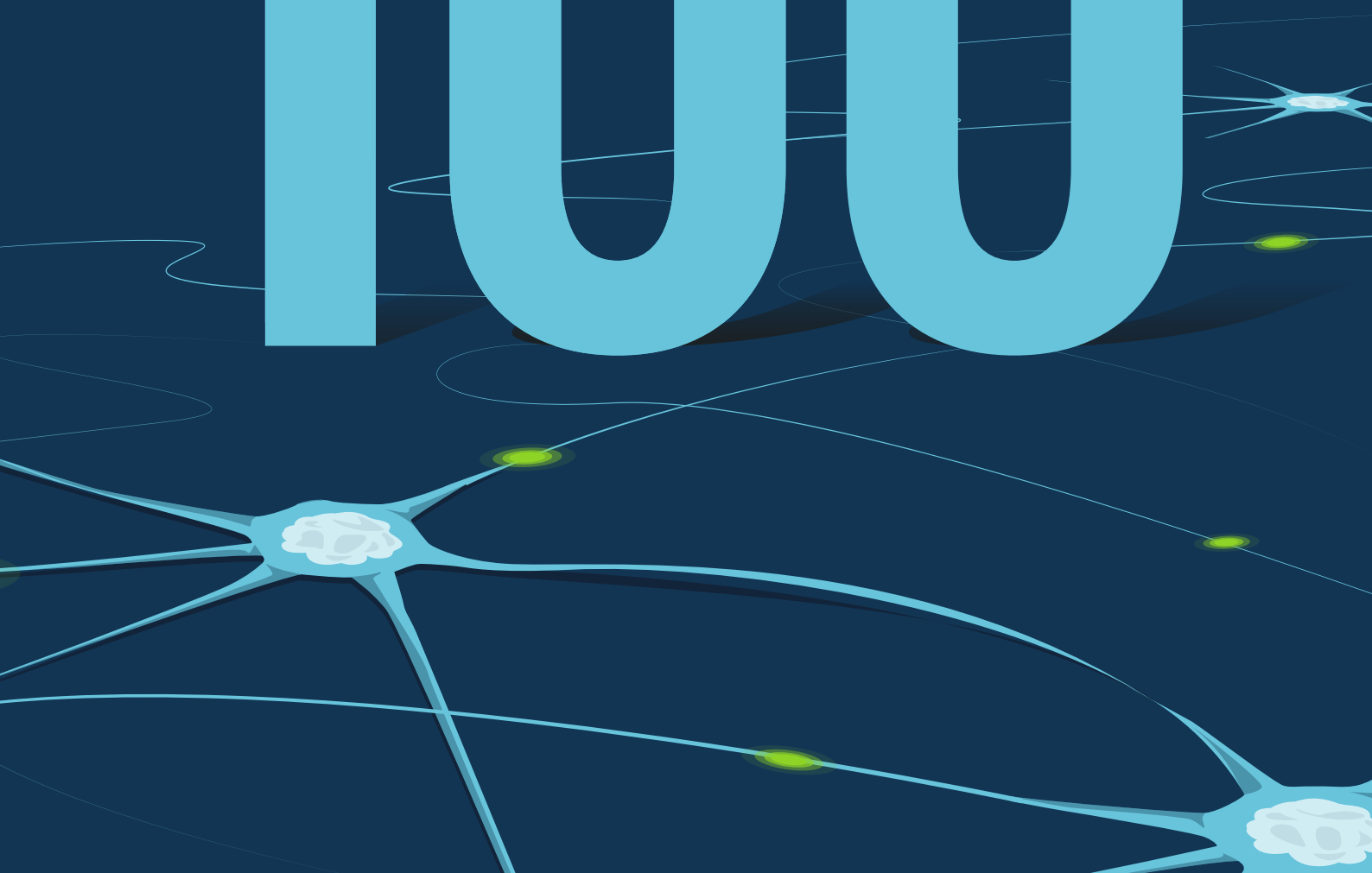


TIP SHEET

100 BRAIN SCIENCE TIPS
TO BOOST YOUR TRAINING
STRATEGY

1000



100 BRAIN SCIENCE TIPS TO BOOST YOUR TRAINING STRATEGY

The best training strategies are those that engage learners throughout the whole process. However, more often than not learner engagement proves to be elusive.

After all, we're dealing with abstract variables such as employee perceptions and feelings. So, how do we address the holy grail of "learner engagement"?

Sadly, there is no magic potion that we can use to enthrall our learners. However, there is some good news. Learner engagement isn't as mysterious as it seems.

And that's where we at Growth Engineering come in! Our expertise lies in helping you unleash the magic of learner engagement, through the solid and sound principles of neuroscience.

Whether you're looking to brain-proof existing training strategies or hungry for new ones, our mighty collection of 100 brain science-fuelled tips will surely do the trick! Let's get started.

Administration

1. Neuroplasticity is the brain's ability to form new connections throughout our lifespan¹. Engaging in new experiences is what triggers this process.
2. As such, you should seek to grow your learners' grey matter with a regular roll-out of new learning initiatives and approaches.
3. Our brains have evolved to learn effectively through trial-and-error². By simply doing something, regardless of the outcome, we can improve our cognitive ability.
4. Highlight your learners' efforts throughout every step of their training. This will help them be more proactive in progressing through your learning programme.
5. Short breaks have been shown to improve the brain's working memory³. This helps facilitate better task performance.
6. Ensure you space out your training in intervals. Give your learners the regular breaks they deserve!
7. Plan for lapses or dips when it comes to your employees' learning momentum. Refocus and adjust your learning strategies where necessary.
8. Prior knowledge⁴ places no burden on one's working memory⁵. Better yet, it can help facilitate performance in many cognitive tasks.
9. Create learning activities that draw upon your learners' existing knowledge. This can extend the capacity of their working memory.
10. Physical activity can spike brain activity⁶. In turn this can help improve retention of new information. Incorporate movement within your learning programme where possible. This can help to make learning 'sticky'.
11. Proper nutrition and adequate sleep can help boost the brain's serotonin levels⁷. This neurotransmitter helps to regulate our well-being. Encourage learners to adopt good habits such as proper nutrition, exercise and sleep.



Content

12. Our brains have a limited capacity⁸. We are only able to hold about five to seven pieces of information in mind at any given time.
13. Reduce cognitive overload through microlearning interventions. This enables you to break up your learning material into manageable chunks to aid in better absorption.

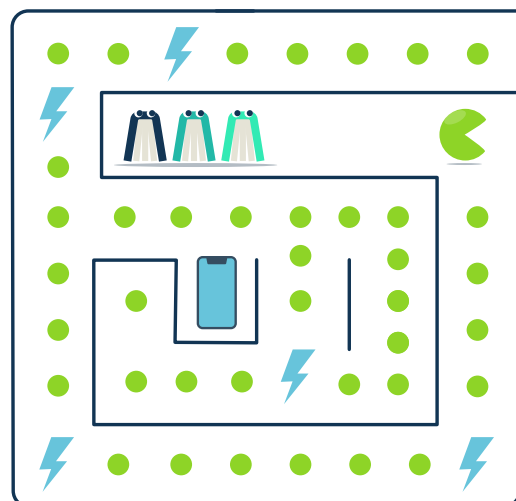


14. You can quickly create and deploy micro-modules with the help of an authoring tool⁹.
15. Increase learning retention by pairing visual content with a narrative. This adds emotional stakes to content, which makes it easier to absorb.
16. Be selective with the kind of music you include in your learning content. Adding binaural beats can help improve the learning atmosphere¹⁰. This will put your learners in a clear and receptive state for learning.
17. Brain studies show that engaging in a variety of activities is essential for cognitive health¹¹.
18. Mix up the content you throw at your learners. Use a variety of videos, quizzes and maybe even a comic strip! In return, you'll have a legion of engaged minds at your disposal.
19. The primal brain is constantly looking for what is familiar and friendly¹². Link new learning material to familiar situations. This will help your learners better understand and absorb new information.
20. The Ebbinghaus Forgetting Curve¹³ tells us that information is mostly forgotten within a couple of days of learning. In a training context, we forget 90% of what we learn within a month.
21. Continuous recall is key! Neuroscientists show that practicing recall every 10 minutes helps us to better retain information. Use flash quizzes in between modules to test and reinforce new information.
22. Our brain is wired to store images directly in its long-term memory bank¹⁴. This is what makes visuals far stickier than written or spoken information. In fact, 90% of information that the brain processes is visual¹⁵.
23. Explain abstract concepts using insightful illustrations or diagrams. This will help your learners quickly make sense of your content.
24. Learners will appreciate a well-executed video to help them better understand learning material.
25. The brain is a highly active and malleable learning machine¹⁶. The more we provide our brain with learning challenges, the more we can expand the learning capacity of our brain.

26. Make your quizzes challenging. Don't make them so simple that everyone can ace them. Likewise, don't make them so challenging that nobody is able to make progress.

Gamification

27. Brain studies show that memory and attention span scores can improve by around 30% with gamified learning¹⁷. This leads to improved learning and productivity outcomes.
28. The brain is primed to ensure our survival. This is why our brains examine our surroundings five times every second for cues that could lead to a threat or a reward¹⁸.
29. The Octalysis Model¹⁹ is a gamification framework built around the neuroscience of threats and rewards. This model can help you define the right game mechanics for your learning programme.
30. Engage the brain's reward circuits by providing your learners with active feedback. Virtual badges, points and rewards are great feedback tools to have in your gamification arsenal.
31. Reduce the threat of uncertainty with the use of Scoreboards. These enable a real-time snapshot of a learner's progress at any point during their training journey.
32. Dopamine is one of the brain's neurotransmitters that make us feel good²⁰. The brain releases high levels of dopamine each time we achieve a desired goal.
33. Experience Points (XP) can fuel your learners' reward-seeking behaviour and trigger a surge of dopamine. These are points that learners earn as they progress through their training.
34. Different brains respond to dopamine in varying degrees. Learners with higher dopamine levels get more pleasure out of competitive activities²¹.
35. Help competitive learners thrive with competition elements such as Battles. These are learner-vs-learner knowledge showdowns which drive unprecedented training engagement levels.



36. Make gamified rewards progressively harder to earn. This keeps learners challenged and motivated.
37. Remembering past successes triggers the release of serotonin (a calming neurotransmitter) and helps us stay motivated on a task.
38. The badge cabinet of a gamified learning management system lets learners get a serotonin rush on-demand, whenever they look at rewards they have earned.
39. Our brain loves a good story. When we are engaged in a strong narrative, this unleashes more brain candy — dopamine²². This is what keeps us hooked to the story.
40. Levels are a great way to deliver your narrative! As the learner progresses through the content, they'll also progress through the narrative.
46. Neuroscience shows that we are most likely to empathise with those we share an affinity or a close relationship with²⁶. Similarly, receiving empathy from others boosts our sense of wellbeing and productivity.
47. Create a social community where learners can socialise and create closer bonds. Use social 'Clubs' to let learners connect based on similar affiliations or interests.
48. Storytelling can help shape our minds and connect people. Get your learners to share their experiences. If the programme is new, ask a subject matter expert to provide an example of how they mastered the new skills or behaviours.
49. Encourage your learners to ask questions at any point of their training. Asking questions can stimulate new neural connections and promote creative insights²⁷.

Social Learning

41. Human beings are wired to connect. The 70:20:10 model shows how 20% of learning takes place in a social context. In fact, studies show how social learning leads to increased learner engagement and performance.
42. Design learning activities which encourage collaboration and teamwork. After all, roughly 75% of employees regard collaboration and teamwork as important²³.
43. Establish a mentorship or buddy programme. Pair up experienced colleagues with less experienced staff. This will enable both participants to share knowledge and support each other's progress.
44. Simulated social interactions are found to drive stronger neural activities in the brain²⁴. This improves recall and long-term retention.
45. Learning technology can help you simulate social interactions in an online learning environment. For instance, Growth Engineering LMS²⁵ offers social tools such as live chats, online video and interactive online classrooms.
50. Social tools such as instant messaging and social feeds are great spaces for learners to get their burning questions answered.
51. Actively sharing our knowledge with others can boost our brain's metacognitive functions²⁸. This is linked to the ability to evaluate and regulate our own learning behaviours.
52. The neuroscience of feedback reveals that criticism can evoke the brain's threat response²⁹. This can damage learners' ability to respond positively to feedback.
53. Be mindful of the feedback you provide to your learners. Highlight their strengths before gently bringing up areas for improvement.
54. Positive words and feedback have been found to light up the brain regions linked to action³⁰. They have also been found to directly trigger brain signals associated with self-esteem³¹.
55. Elevate communication with your learners with the conscious use of positive language. Choosing the right words can help boost your learners' self-esteem and spur them into action.

Epic Meaning & Personalisation

56. A personalised training programme can activate the release of oxytocin³² — the brain's 'bonding' hormone. This can help learners to feel more relaxed and open to learning.
57. Make your message personal. Make sure that you use words that resonate with your learners' values. This signals to the primal brain that the programme will benefit their wellbeing. This increases empathy and engagement from the get-go.
58. Stimulate deeper thinking by exercising the brain's metacognitive functions. This enables us to reflect and evaluate our thought processes and behaviour.



59. Encourage reflective practice using tools like the Discovery Method. The Discovery Method allows you to ask learners open questions, which helps them relate their training to their day-to-day work life.
60. Brain studies show that people who find purpose in their experiences are more resilient³³. Epic Meaning (or a sense of intense purpose) can keep learners engaged and productive amidst challenges and setbacks.
61. Help your learners understand their purpose. Create a clear sense of Epic Meaning. Epic Meaning is the idea that everyone wants to be part of something bigger than themselves.
62. Link your learning programme to real world rewards that enable your employees to contribute to a higher good. For instance, you can tie these rewards to charity donations or corporate sustainability efforts.
63. We are hard-wired to seek out and achieve goals³⁴. Goal-setting gives your brain something to aim for. Setting targets and hitting them can create positive feelings of accomplishment and achievement.
64. Encourage your learners to set their own goals. This will increase their sense of ownership within your training programme.
65. Applying physical actions to a task can deepen our sense of agency. This activates the brain's motor pathways³⁵ and stimulates a sense of ownership.
66. Reinforce learners' sense of agency with hands-on training experiences or practical assessments. Within an online platform, you can ask learners to create videos of themselves demonstrating or practicing a skill.
67. Personalisation isn't just about interacting with eLearning units. You should seek to make the entire learning journey relevant and meaningful for each individual learner. Adaptive learning pathways let learners forge their own way through the available learning content.
68. When faced with multiple goals, the brain assigns priority to those that hold higher personal value³⁶. As such, you can increase engagement by matching your learning goals with your learners' personal values.
69. We love hearing our own name³⁷. In fact, our brain registers it much faster than other stimuli. Small things like addressing learners by name can grab their attention!
70. Neuro-research finds that digital audio offers a more personalised experience than radio or TV³⁸. This quality is what makes it a better tool to support learning.
71. Create personalised playlists with your eLearning modules to help focus your learners' attention.
72. Level up personalisation by using customised learning games³⁹. Layer on your brand imagery, colours and logo so that your learning game sits right at home amongst the rest of your training content.
73. Self-affirmations activate the reward centre of the brain, producing endorphins. Encourage learners to practice self-affirmations every day. This will help rewire their thinking and develop self-confidence in their learning.
74. We are wired to pay attention to information that is personal or relevant to us. Capture attention with relatable anecdotes or examples linked to your course content.
75. The Amygdala — the brain's threat meter, can be triggered when we are faced with difficult challenges. Reframing can help learners interpret situations in ways that can trigger more positive emotions⁴⁰.
76. Shift learners' limiting thoughts regarding their capabilities with reframing. Get them to see their weaknesses as areas for growth, instead of areas of failure.
77. No two human brains are exactly the same. Neuro-imaging reveals the link between our unique brain structure and the formation of our key personality traits⁴¹. These traits are what shape certain preferences towards learning.
78. As a result, there is no one-size-fits-all approach to learning. We are all naturally drawn to different learning approaches, based on our natural strengths and abilities.

Mobile Learning

79. New neural circuits are formed when we repeat something over and over. It takes the brain an average of three weeks to create strong new neural circuits⁴². This is how we form and reinforce new habits.
80. Encourage good learning habits through mobile learning approaches. The average mobile user spends 2.5 hours daily on their smartphone⁴³. Our very own mobile app solution⁴⁴ can help your learners access learning anytime and anywhere!
81. Our brains thrive on triggers that enable us to take action⁴⁵. Multiple triggers are needed to aid in recalling information. This works especially well if the cue is set at the point of action.



82. Mobile push notifications are a phenomenally powerful way to reach your learners and encourage them to take quick action.
83. Incorporate microlearning modules on your mobile device. This enables short and regular bursts of learning. This kind of frequency helps strengthen the hippocampus' neural pathways.
84. Interfering stimuli, also known as interruptions, can negatively affect our brain's working memory. Reducing the amount of interruptions can improve the brain's ability to focus.
85. Online/offline sync on a mobile app allows your learners to complete content regardless of their internet connection. This prevents any interruptions caused by connectivity problems and keeps learners focused.
86. Mobile devices are typically social tools. Utilise social feeds and notifications to keep your learners' dopamine rush going!
87. Create mobile learner engagement through gamification. Luckily, you can also incorporate XP, badges, levels and leaderboards in a mobile learning environment. This can help you to supercharge engagement.
88. A multi-channel learning approach helps build thicker and stronger neural connections⁴⁶. Don't switch to a mobile-only solution. Think of mobile learning as part of a larger training programme.
89. Designing a mobile learning environment is hard. Seek to avoid cognitive bias by doing your research and getting to know your learners.
90. Tailor your training content so it's suitable for mobile learning. The best way to do this, is to picture your learner examining your content while commuting on a train. And ensure you use a mobile-ready authoring tool.
91. Build momentum for a new mobile training roll-out by publicizing a pre-launch initiative. This will trigger the release of dopamine by creating a sense of anticipation and excitement.

Learning Platform

92. A learning platform with too many features can add unnecessary complexity. This can impair the brain's cognitive efficiency⁴⁷.
93. Create a list of the must-have features you want in a learning solution. This will help you select the right learning platform for your learners.
94. Focus is greatly aided by spatial attention. Studies have shown an increase in brain activity linked to attention, when our field of vision is directly focused on one visual stimulus.
95. When designing your online learning interface, be sure to consider the main area you want your learners to focus on!
96. Learning new things keeps our mental faculties sharp. Content libraries on your learning solution can encourage learners to explore new material.
97. Chunking is a neuro-technique which lets us take bits of information and combine them into a larger and more meaningful whole⁴⁸. This helps make information easier to retain and recall.
98. When selecting a learning platform, chunk up a specification checklist by grouping features into broader categories. This helps you link feature sets to bigger organisational goals.
99. Induce a rush of dopamine through the regular roll-out of new features and surprises within your learning programme. Select a learning technology vendor with a proven record of delivering their product development roadmap.
100. Invest in a learning platform that can support different modes of learning. Our learning solution⁴⁹ delivers an integrated learning experience thanks to its gamification, social and mobile learning functionality!

Final Words

The first step of real learner engagement is to truly understand your learners. This calls for the right training strategies backed by brain science. At Growth Engineering, we are laser-focused on engaging learners and changing behaviour.

To do this, we use our world-leading expertise in behavioural science, neuroscience and approaches like gamification and social learning to drive real results and serious return on investment.

If you want to learn more about how you can engage your learners, why not get in touch with the undisputed engagement experts by [clicking here?](#)



References

1. accelerate.uofuhealth.utah.edu: Neuroplasticity
2. psychologytoday.com: How Does Your Brain Learn Through Trial and Error?
3. edutopia.org: Benefits of Breaks
4. frontiersin.org: The Influence of Prior Knowledge on Memory
5. mindtools.com: Cognitive Load Theory
6. brainhq.com: Everyday Brain Fitness
7. chrysaliscourses.ac.uk: How Does Your Diet Affect Mental Health
8. mindtools.com: Cognitive Load Theory
9. growthengineering.co.uk: Growth Engineering Authoring Tool
10. link.springer.com: Binaural Beats
11. sciencedaily.com: Variety and Consistency Are Essential to Keep the Mind Healthy
12. journals.plos.org: Emotional Processing of Personally Familiar Faces in the Vegetative State
13. growthengineering.co.uk: The Forgetting Curve
14. changingminds.org: Active Learning
15. t-sciences.com: Humans Process Visual Data Better
16. accelerate.uofuhealth.utah.edu: Neuroplasticity
17. bbc.com: How Video Games Can Change Your Brain
18. brilliantminds.co.uk: The Scarf Model
19. bbc.com: How Video Games Can Change Your Brain
20. forbes.com: The Neuroscience of Motivation
21. healthland.time.com: Your Drive to Compete May Come Down to Dopamine
22. neuroleadership.com: Neuroscience of Storytelling
23. goremotely.net: 24+ Mesmerizing Workplace Collaboration Statistics
24. ncbi.nlm.nih.gov: The Influences of Emotion on Learning and Memory
25. growthengineering.co.uk: Growth Engineering LMS
26. minervaengagement.com: Empathy: The Role of Empathy in Connection and Relationship
27. lincs.ed.gov: Deeper Learning Through Questioning
28. cambridge-community.org.uk: Getting Started with Metacognition
29. td.org: The Neurobiology of Feedback
30. brm.institute: The Neuroscience Behind Words
31. sciencedaily.com: Self-Esteem Mapped in the Human Brain
32. livescience.com: Oxytocin
33. ncbi.nlm.nih.gov: Purpose in Life Predicts Better Emotional Recovery from Negative Stimuli
34. frontiersin.org: The Emerging Neuroscience of Intrinsic Motivation
35. journals.sagepub.com: The Role of Body-Related Afferent Signals in Human Sense of Agency
36. neuroleadership.com: Your Brain On Goals
37. ncbi.nlm.nih.gov: Brain Activation When Hearing One's Own and Others' Names
38. ads.spotify.com: Sonic Science
39. growthengineering.co.uk: Game Templates
40. linkedin.com: The Neuroscience of Reframing
41. sciencedaily.com: Self-Esteem Mapped in the Human Brain
42. thesystemsthinker.com: The Neuroscience of New Habits
43. cybercrew.uk: Smartphone Usage UK
44. growthengineering.co.uk: Growth Engineering Learning App
45. psych-neuro.com: Triggers
46. edutopia.org: Neuroplasticity: Learning Physically Changes the Brain
47. jpt.spe.org: Complexity Decreases Situation Awareness, Increases Human Error
48. verywellmind.com: How Chunking Pieces of Information Can Improve Memory
49. growthengineering.co.uk: Growth Engineering LMS

IMPACT SUITE

IMPACT FUELLED BY
LEARNER ENGAGEMENT!

Making an impact through learning technology is hard. Really hard. In fact, only **8%** of CEOs see an impact from their corporate learning initiatives. Your learners deserve better. And you deserve a learning solution that empowers you to produce real results.

Whatever learning problem you're trying to solve, we can help. The Impact Suite combines three multi-award winning products with expertise from the Growth Engineering team to create the ultimate end-to-end learning solution.



GROWTH ENGINEERING LMS

GROWTH ENGINEERING LEARNING APP

GROWTH ENGINEERING AUTHORIZING TOOL



Gamification

Engage and incentivise your learners



Customisation

Shape your learning environment



Pathways

Manage learning curricula and levels



Mobile

Reinforce knowledge on our mobile application



Integrations

Connect your existing systems to automate



Social Learning

Bring your audience together



Content

Create and share learning experiences



Reporting

Track progress and report on success



Classrooms

Administrate classroom events and webinars



eCommerce

Build a marketplace and sell your courses

REAL IMPACT

L'ORÉAL

L'Oréal Travel Retail territories using our technology outperform those who don't by **20%**.

iMARKETSLIVE

iMarketsLive added **\$253m+** in revenue via sales of their instance of our mobile app solution.

World Health Organization

We've embarked on a project to improve **3bn** lives with the World Health Organization by 2030.



“ We've never seen engagement like it. ”
– Sylvie Pecheur, Global Business Partner at HP



GET IN TOUCH

W www.growthengineering.co.uk
E hello@growthengineering.co.uk
T +44 (0) 208 103 9005

FIND US HERE

in growthengineering
@growthengineer
@growthengineering