DOCOMO and PaMeLa Develop World's First Technology to Share Pain Perception Tailored to Individual Sensitivity
—In addition to motion, haptics, and taste, pain can now be shared through DOCOMO's human-augmentation platform—

TOKYO, JAPAN, October 1, 2025—NTT DOCOMO, INC. and PaMeLa Inc. jointly announced today that they have developed a groundbreaking technology that integrates DOCOMO's human-augmentation platform[TM] with PaMeLa's brain-wave (EEG) based pain-measurement technology. The new technology estimates individual differences in pain sensitivity, allowing for the sharing of pain perception tailored to the recipient's experience. This marks a significant milestone as the world's first technology[1] enabling pain sharing based on individual perception.
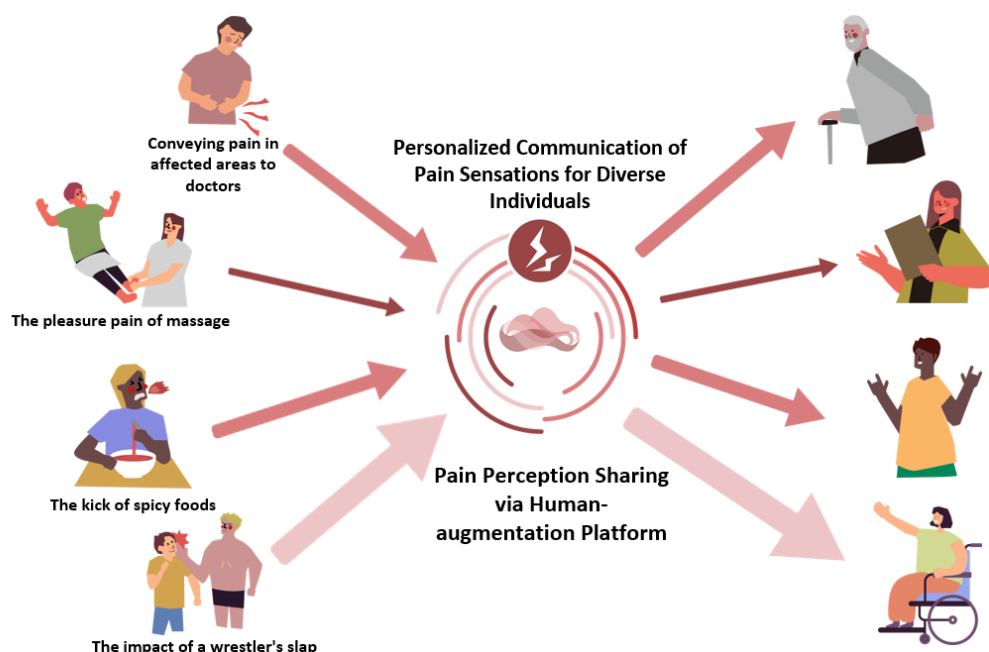

Image of Pain Sharing

This technology is fundamentally structured around three components: a sensing device that captures data related to pain, the human-augmentation platform which estimates and shares individual differences in pain sensitivity, and an actuation device that reproduces the sensation of pain.

Traditionally, articulating physical and psychological pain to others has proven challenging, often leading to subjective interpretations, making objective analysis difficult. This new technology developed by DOCOMO and PaMeLa not only quantifies and visually represents the pain experienced by individuals subjected to pain stimuli through brain wave analysis but also converts this pain into a comparable level based on recipients' sensory perception. This enables recipients to comprehend information such as "What does the 'pain level of 50' mean for person A compared to person B?" or "How much pain is person A currently experiencing relative to their normal state?".

By enabling the sharing of this subjective and individually varying sensation of pain, the technology holds immense potential for applications in medical diagnosis support, rehabilitation within welfare fields, and enhanced immersive experiences in entertainment fields such as XR and gaming. Furthermore, it is anticipated that this technology could provide solutions for addressing psychological harm in areas such as abusive behavior from customers to staff or defamation on social media, where damage is often difficult to visualize.

Going forward, DOCOMO and PaMeLa are committed to advancing this technology towards practical application and fostering a new communication culture, ultimately contributing to a society where individuals can lead richer, more fulfilling lives.

Additionally, this innovative technology will be showcased at "CEATEC 2025," taking place at Makuhari Messe starting October 14, 2025.

[1] As of October 1, 2025, according to NTT DOCOMO's research

"Human-augmentation platform" is a trademark or registered trademark of NTT DOCOMO, INC. in Japan and other countries.

About NTT DOCOMO

NTT DOCOMO, Japan's leading mobile operator with over 90 million subscribers, is one of the global leaders in 3G, 4G and 5G mobile network technologies.
Under the slogan "Bridging Worlds for Wonder & Happiness," DOCOMO is actively collaborating with global partners to expand its business scope from mobile services to comprehensive solutions, aiming to deliver unsurpassed value and drive innovation in technology and communications, ultimately to support positive change and advancement in global society.
https://www.docomo.ne.jp/english/

About PaMeLa

PaMeLa Inc. is a Japanese startup developing a brain-wave (EEG) based system that measures pain and visualizes it as a 0-100 score using unique artificial intelligence (AI), providing objective pain assessment and supporting pain-management decisions, guided by our mission to improve the quality of life for everyone.
https://pain-ml.com/en/