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World's most human-like android head

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Dr. Dmitry Itskov, founder of the 2045 Initiative and Global Future 2045 congress (GF2045), announced Thursday that he will unveil Dr. David Hanson's latest android, the Dmitry Avatar-A head — the “world's most human-like android head” — at the GF2045 congress, scheduled for June 15–16 at Lincoln Center in New York City.

The new android, a robotic replica of Itskov's head, is being created by award-winning roboticist Hanson, founder and chief scientist of Hanson Robotics, and famous for his Einstein, PK Dick, Bina 48, and some 40 other androids.

It will be “closer to human than any replicant robot so far,” Hanson told KurzweilAI. He said the high articulated facial expressions are created with 36 servomotors — 32 in the face, 4 in the neck, with high-resolution sensors in the eyes; each eye will also be independent.

“It will be more expressive and realistic, larger, esthetically more appealing,” he said. Of course, this raises a challenge to deal with “uncanny valley” effects — too realistic, and it may creep out some individuals, so the design has to be kept not-too-human, he said.

Dmitry Avatar-A also benefits from a new hyper-expressive formulation of Hanson's proprietary nanotech material called “Frubber.” This is a spongy, structured elastic polymer that expertly mimics the movement of real human musculature and skin.

The new formulation uses “1/20th the power of other materials, as well as new mechanisms for improved facial expressions,” explained Hanson. “It also has increased consistency, movement, strength, and manufacturability.” (It plays a key role in Hanson's current contracts with CDC and NIOSH for safety-equipment testing, such as respirator fit, he said.)

Hanson will also show his DIEGO-SAN robot and the highly expressive WonderBots, created by his spinoff Hanson RoboKind company.

RoboKind is teaming up with universities and research groups to learn about and explore human and robotic interaction, in addition to robotics, artificial intelligence, material science,



cognitive science, and neuroscience.

The robots he's presenting at GF2045 are improved by being lighter-weight, with lower power required, and with adaptive intelligence, he said.

Hanson will also be co-presenting with artificial general intelligence (AGI) researcher Dr. Ben Goertzel on the possibilities of human-like avatar robots and neural uploading to robots, along with a roadmap for far-future technologies like AGI and mind uploading.

Dr. Hiroshi Ishiguro will also be showing his latest tele-operated android robots at GF2045.



Geminoid HI-2 (credit: Hiroshi Ishiguro)

Zeno and Alice, expressive WonderBots
(credit: Hanson Robokind)