

BEAUTY AI: EXPERIMENTS AND VISIONS IN SKIN CARE

05/17/2017, Sven Clemann



Beiersdorf

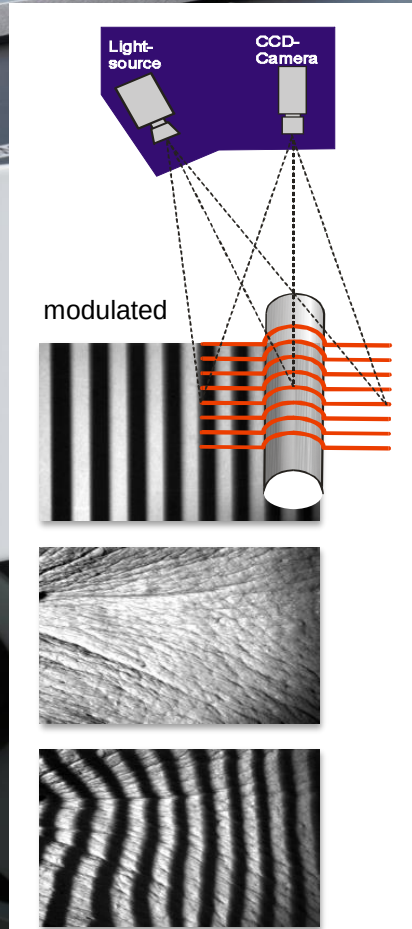
EXPERIMENTAL DESIGN – PAST AND PRESENT

DATA SOURCES NOW



Physical
Skin values
by
instruments,
haptic, tactile

EXAMPLE: SKIN ROUGHNESS / WRINKLES



Fringe projection Technology:
 $\Delta z=2\mu\text{m}$, $\Delta x,y=23\mu\text{m}$, $t=60\text{ms}$



EXPERIMENTAL DESIGN: SKIN PERCEPTION

Data sources now



Visual
Skin analyzing
by
pictures, video

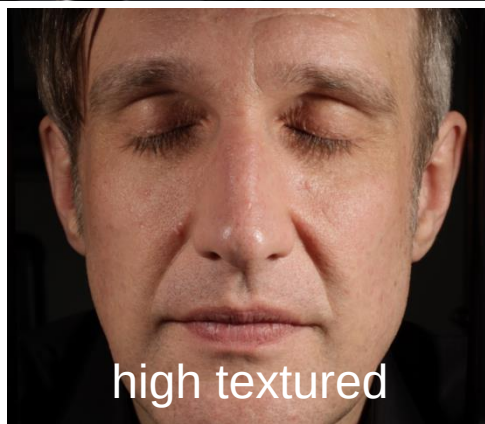
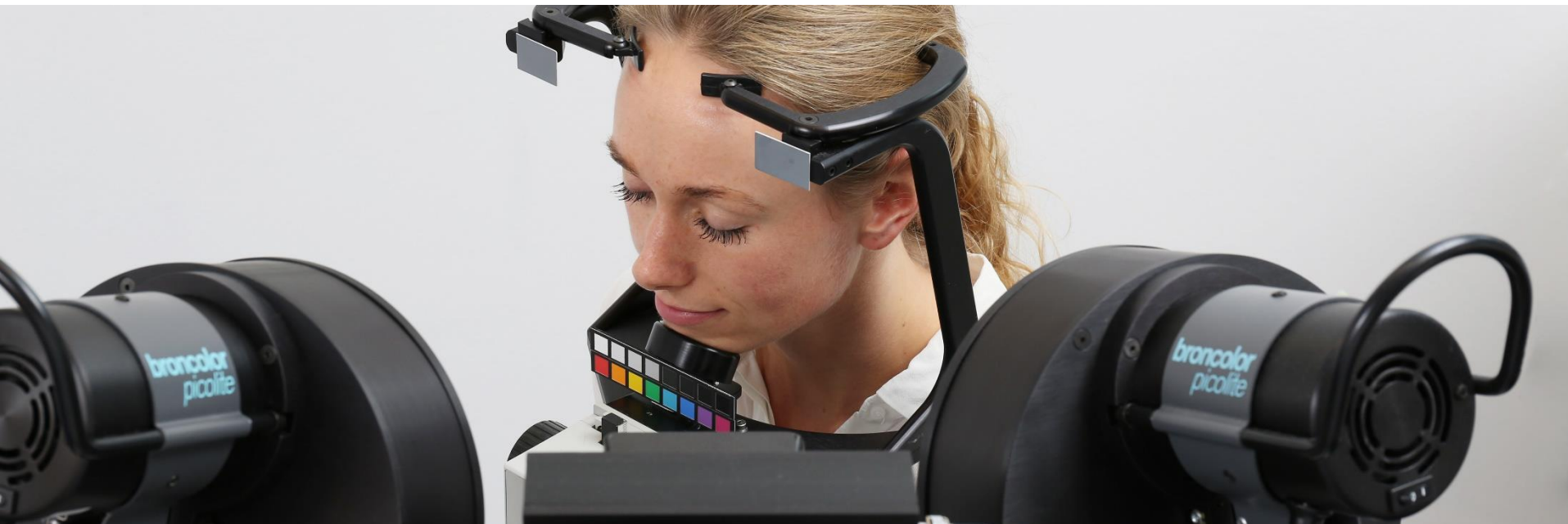
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A CLOSE LOOK....

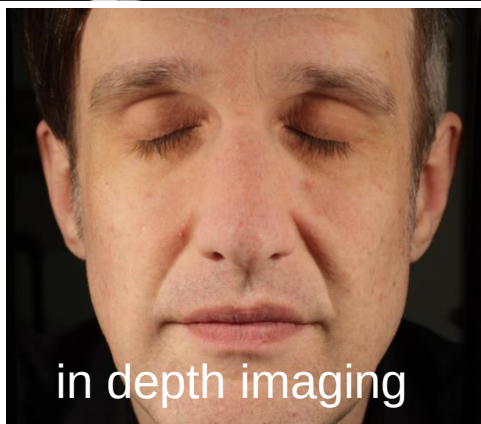


Since 90s: high resolution imaging

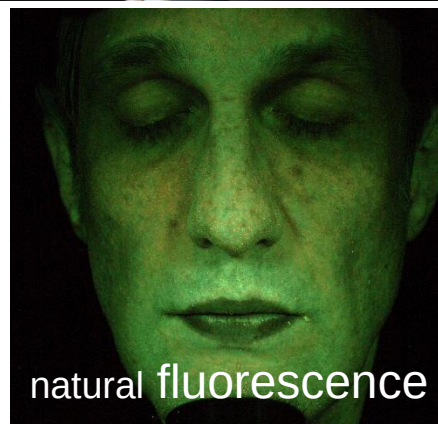
A DEEP DIVE BY CLINICAL IMAGING



high textured



in depth imaging



natural fluorescence



visualize UV damage

THE NEARER FUTURE

CLOSEST TO YOUR SKIN



**Smart
clothing**
a daily
companion

Visual
Skin analyzing
by
pictures, video

Physical
Skin values
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EVERYTHING IS SOMEHOW CONNECTED

ADDING THE PRODUCTS



FUTURE SKIN CARE



**Cosmetics
and
Beauty**

Visual

Skin analyzing
by
pictures, video

A.I.

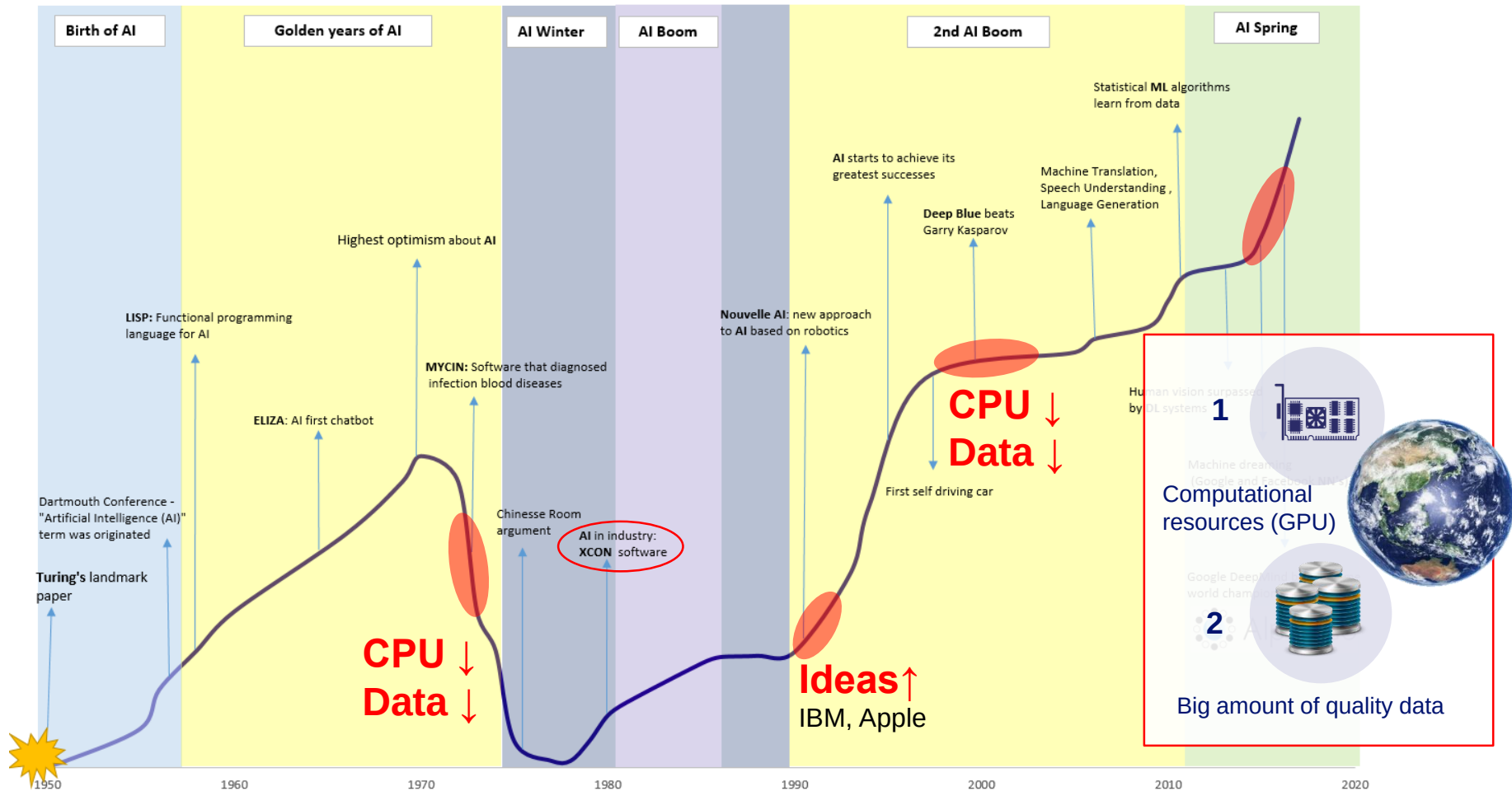
Physical

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**Smart
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WHY IS NOW THE RIGHT TIME AND WHAT'S NEXT?

Brief History of AI



The world as our lab!

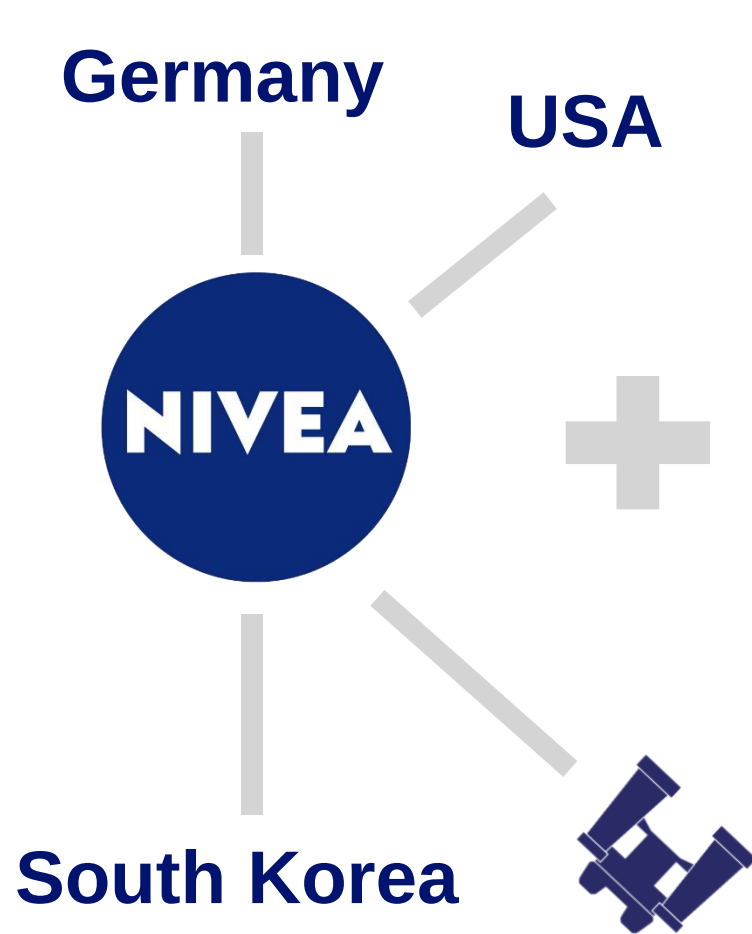


“What happens in their life while using products?”

MASSIVE DATAFLOW IN THE FUTURE



COLLABORATION WITH THE BEST



Continuously
**looking for further
dedicated partners**

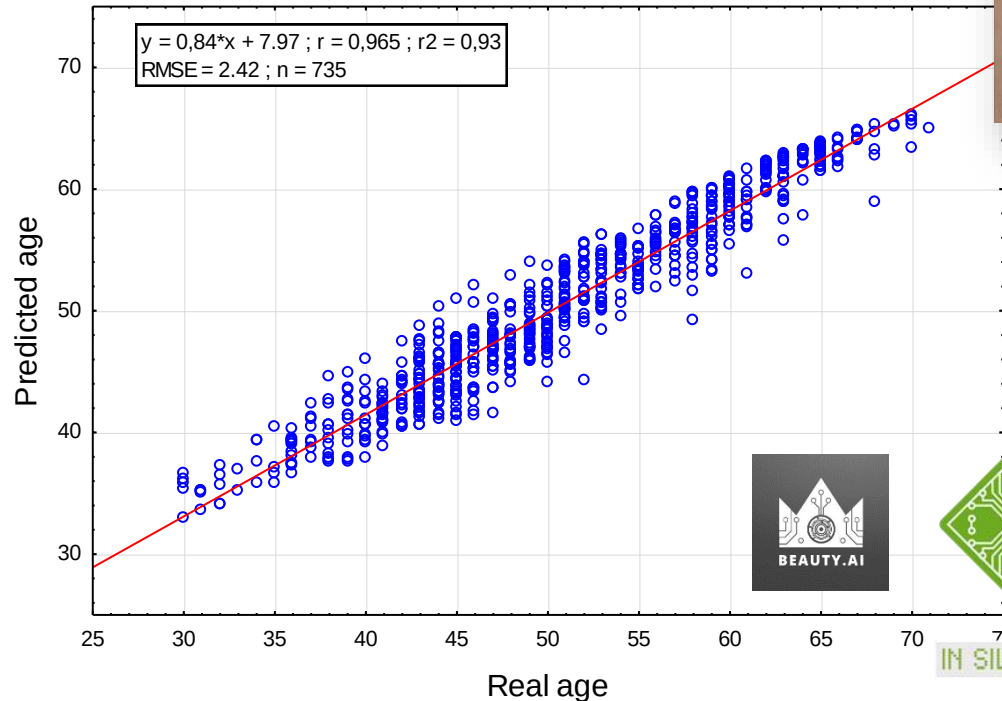
DEEP LEARNING R&D IMAGES: SKINHACK 1.0



Skoltech (Moscow): hackathon **Aging predicted by Images**

SKINHACK 1.0 SURPASS MICROSOFT „HOW OLD.NET“

Predicted vs. real age



80% of predicted age (evaluation data set) **within ± 2.42 years**

FUTURE IMPACTS FOR HUMAN LIVE

A FUTURE VISION FOR ARTIFICIAL INTELLIGENCE



seniors



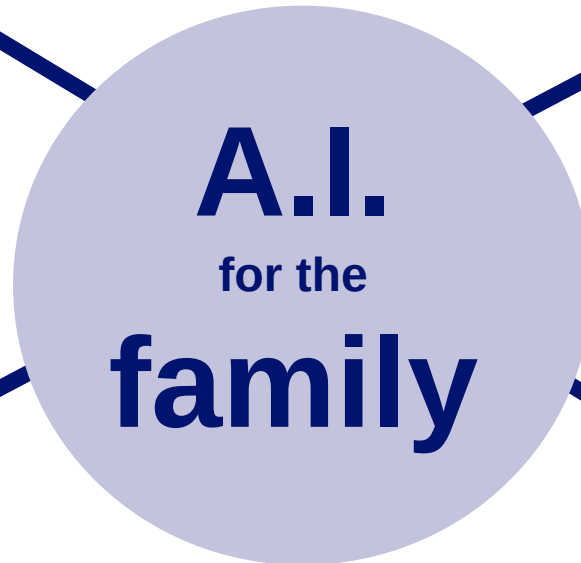
adults



children

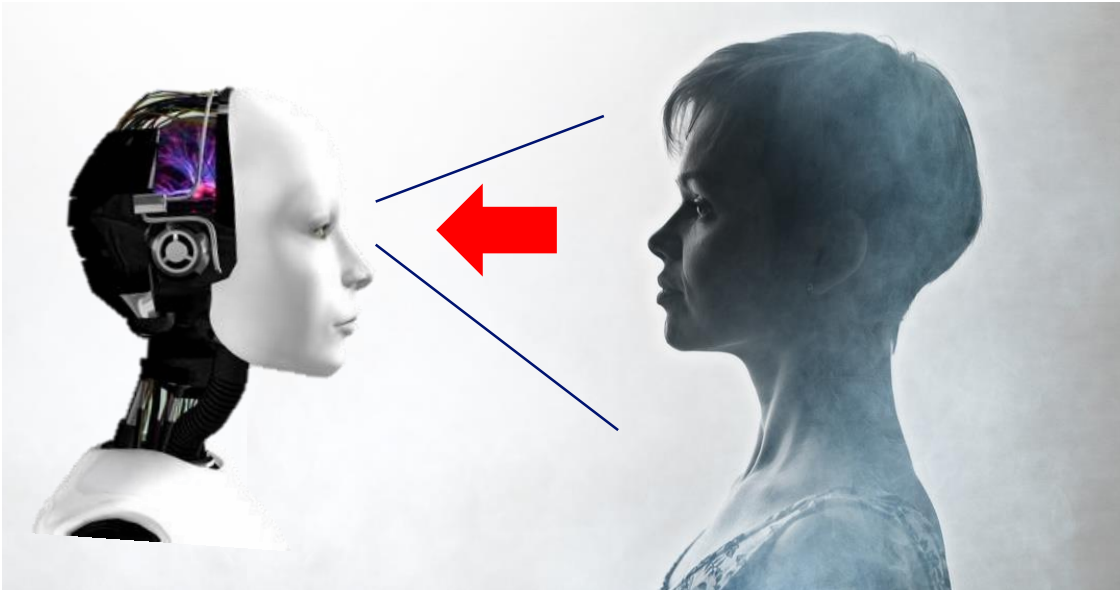


teenager



Use of AI to improve **childhood** and **longevity**

FUTURE ROLE OF AI FOR SKIN, BEAUTY AND OTHERS



- **age**
- **health** status
- **skin** profile
- Connect **other** sources (IoT)



What about our **point of view?** Thread? Challenge? Chance?

2016: GOOGLE “ALPHA GO” POWER OF AI



Source: <http://www.nbcnews.com/news/asian-america/deep-blue-creators-life-story-moves-stage-big-screen-n225311>

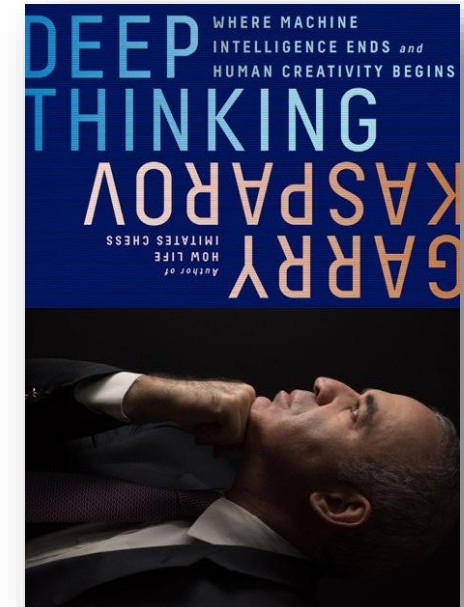
BACK TO FUTURE: 1996 IBM DEEP BLUE VS. KASPAROV



1996: 2.0:4.0

1997: 3.5-2.5

Picture: Marco Montoya / Pixabay



Source: https://books.google.de/books/about/Deep_Thinking.html?id=0ub6DAAQBAJ&redir_esc=y



Humans learn from or **get inspired** or **join forces**
with machines to approach **new borders**

THE FUTURE: FAMILY 2040 ROBOTS AS OUR COMPANIONS



In daily life **Human / Machine Interaction** will provide
and deliver **Feedback** and **Services** supporting **Humans**



THANK YOU!

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