Novatrans *and* TeraSafe Intro
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Israeli sister companies branched from Weismann Institute of sciences

More then 30 granted IP

75M$ investment

Partner with IBM for production next generation TeraChipe (THz source and sensor)

Looking for partners for commercialization in the Homeland market

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TeraMetric overcoming *the* brickwalls

Lack of power resolution and water penetration limits' the use of THz in the market place

- **Terametric 100 +**

  - ▶ Full fledged TeraChip

    - Better resolution

      - Linewidth 30-50MHz

    - 3 orders of magnitudes power increase

      - 1mW @ 1THz

    - Better sensitivity

      - SNR: 90dB @1THz

      - No water sensitivity

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Why TeraMetric

- **definition**
  - ▶ excellent spatial resolution

- **Insight**
  - ▶ Sensitive to Inter-molecular bonding (Vs IR)
    - • Spectroscopy

- **Penetration**
  - ▶ Imaging

- **Human Safe**

- **No water sensitivity**
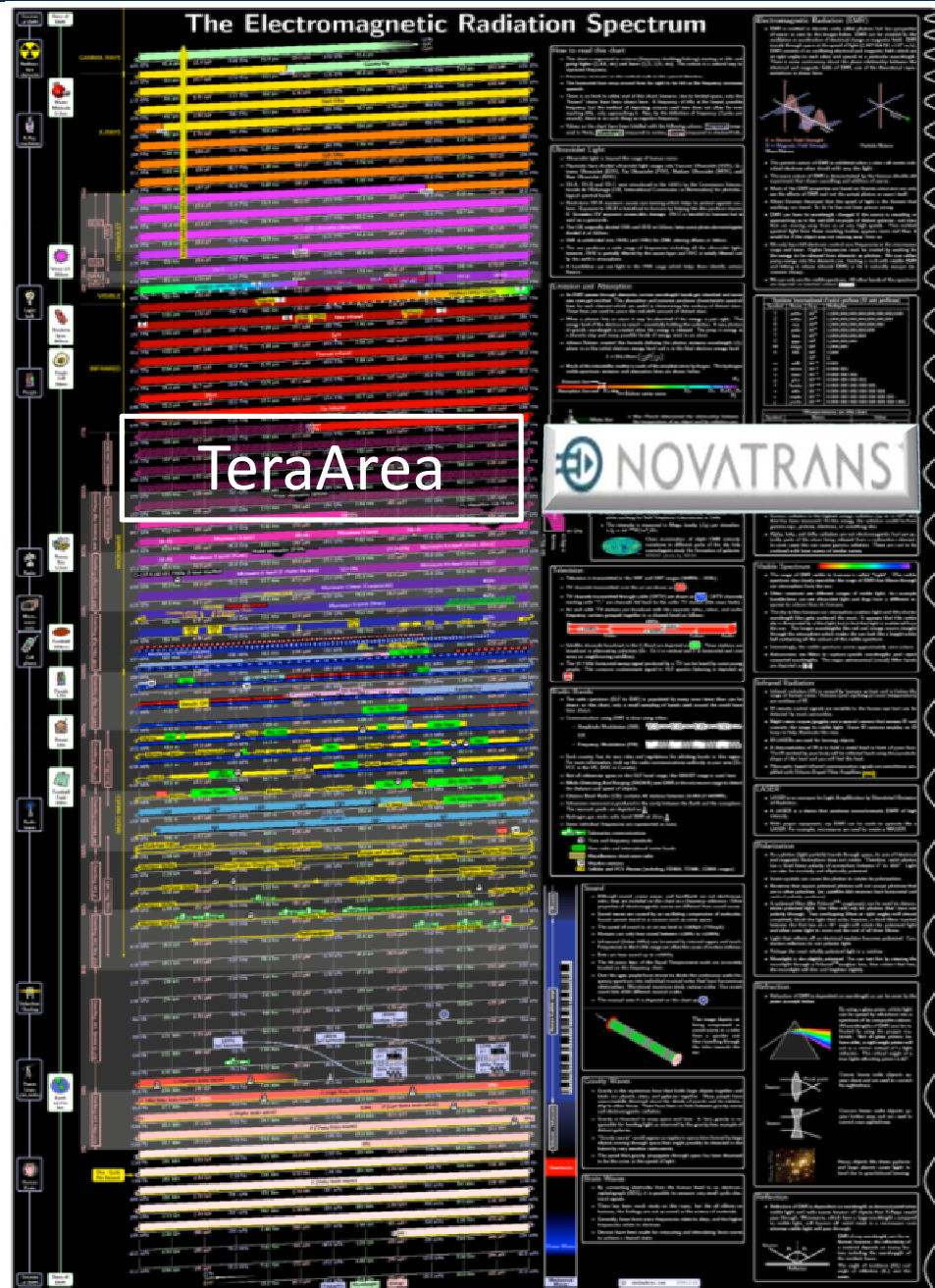
What Is TeraHertz?

Gamma-Ray
X-Ray

UV

Visible Light
IR
Terahertz Gap
300-3,000GHz

Microwave Communication

Microwave

WiFi

Radio

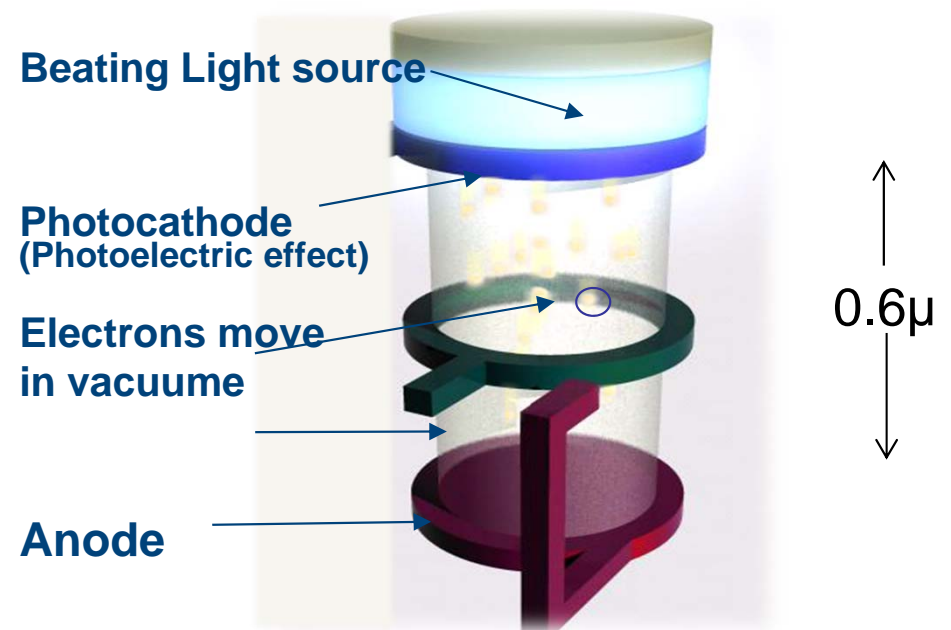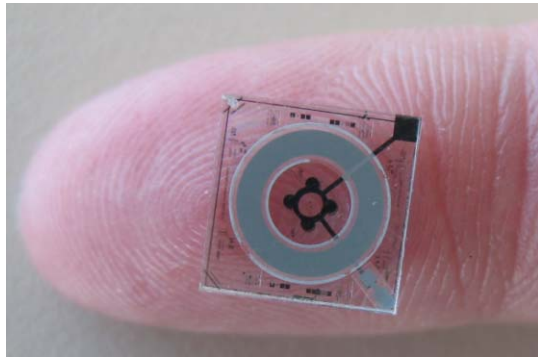The Electromagnetic Radiation Spectrum

TeraArea

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4

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The TeraChip: A New Breed Of THz Source

- **Electrons move in *Nano vacuum tube*, not in silicon**

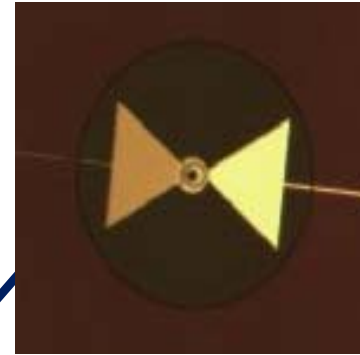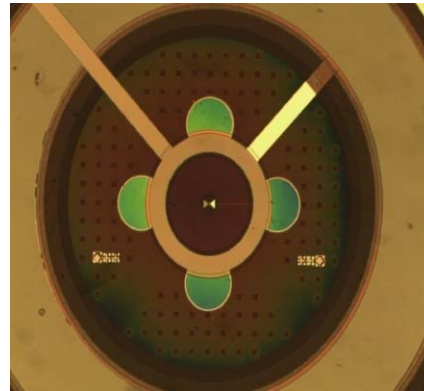- **THz speeds are enabled**

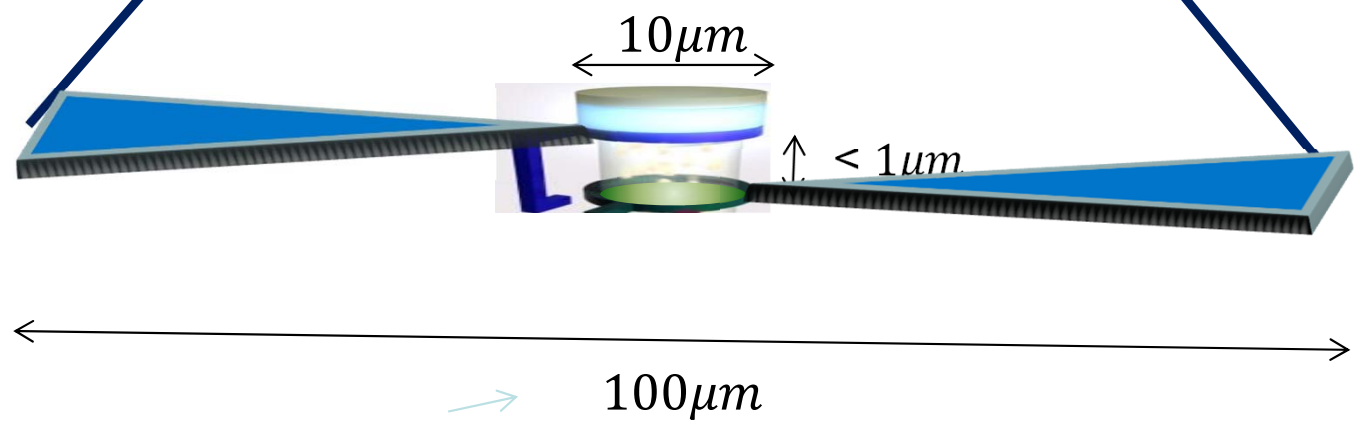- **No heat generated**

- **Human safe**

TeraChip – Key elements

Beating Light source

Photocathode
(Photoelectric effect)

Electrons move
in vacuume

Anode

0.6μ

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7mm

0.1mm
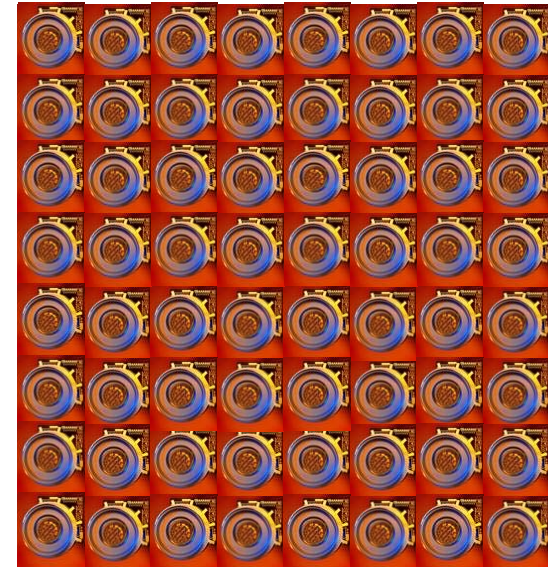
$10\mu m$

$< 1um$

$100\mu m$

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THz Imaging Panel

- **TeraChip array**
  - Homeland Security
  - Industrial imaging applications

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Phase - I Work with market leaders

- **Sell general purpose systems**
  - ▶ TeraChip
  - ▶ Programmable

- **Setup joint ventures with market leaders**
  - ▶ Homeland security detection spectrum of needs
  - ▶ Develop special purpose TeraChips, as required
    - Program generic system to an application-specific system

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Phase I I – Mass Quantity Applications

- **Team up with System Integrators**

- **Define & develop THz modules for industrial & para-military processes**

  - ▶ Homeland Security

  - ▶ Communication

  - ▶ Medical

  - ▶ Online industrial process monitoring

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Questions?
Thank You

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