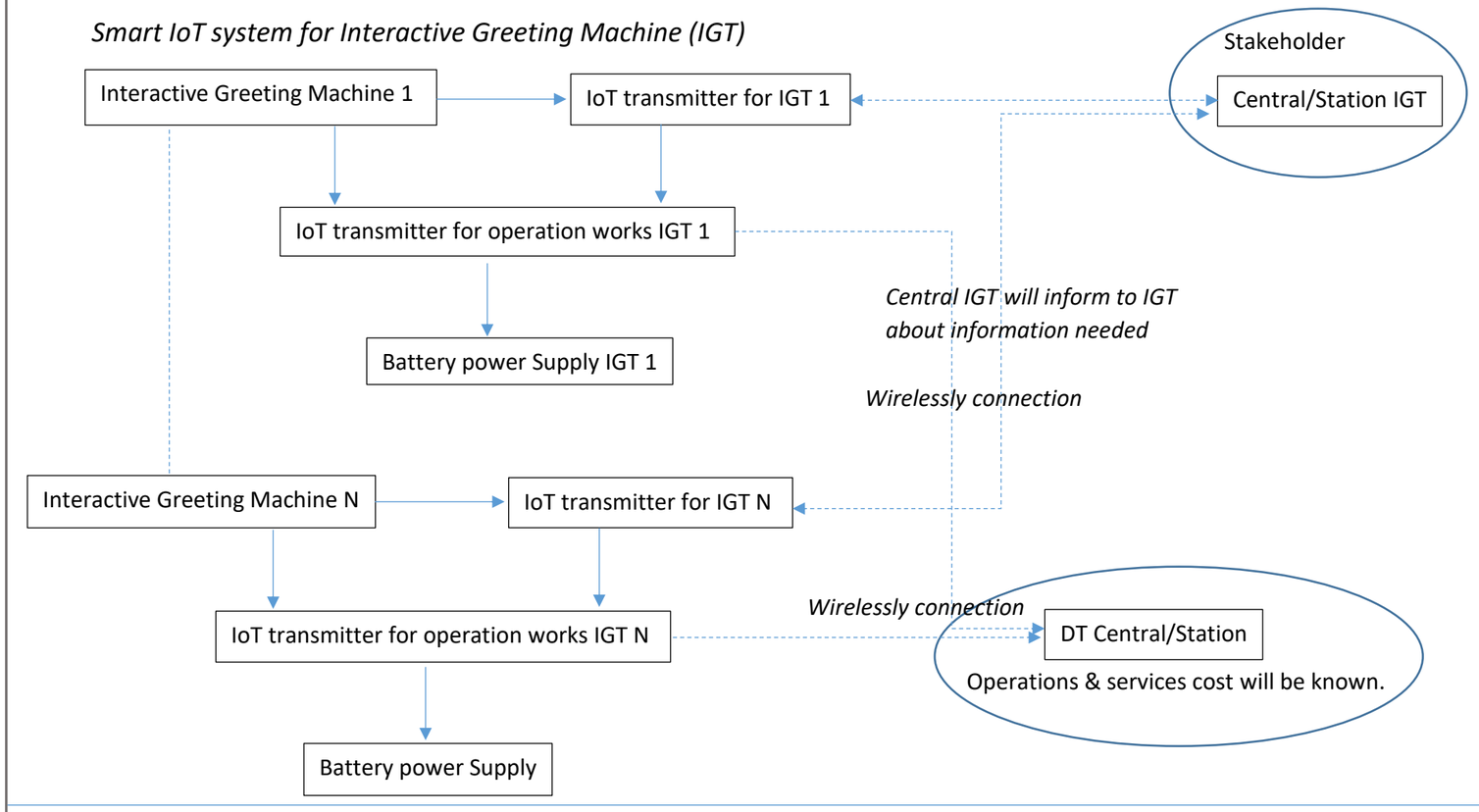
Innovations PEMF (Potential Electro Motion Force) and multi wires method for Interactive Greeting Machine (IGT)

Prototype design

Something leave in headway, ICT technologies progress leave “scolded reprimand” between people and these technologies caring it that make Who are newcomers to an area (unfamiliar with local terrain or not fluent in the local language), Who have small children (navigating public transportation, learning about available services), Who struggle with digital literacy (elderly, learning disabled), Who are blind, deaf, or physically handicapped, Who are elderly - as the population ages, more and more people will experience reduced mobility, diminished hearing, and loss of visual acuity will fill like home.

Smart IoT system for Interactive Greeting Machine (IGT)



Interactive Greeting Machine (IGT)

Sensor and detector with new innovation PEMF method

Powered by new innovation PEMF Solar cell

For navigation services to guide a user to his/her destination in the best way, taking into account current conditions, user handicaps, and public transportation options and identifies nearest available parking spaces, both commercial and municipal. For accessibility to municipal information and services by identifying and aggregating the correct sources of information and providing instant translations into other languages or other formats (read aloud, infographic, etc.). Services that enable people to live independently by creating an AI-like interface to more intuitively connect people to digital services and linking home sensors to municipal services for emergencies, utility disruptions, etc.

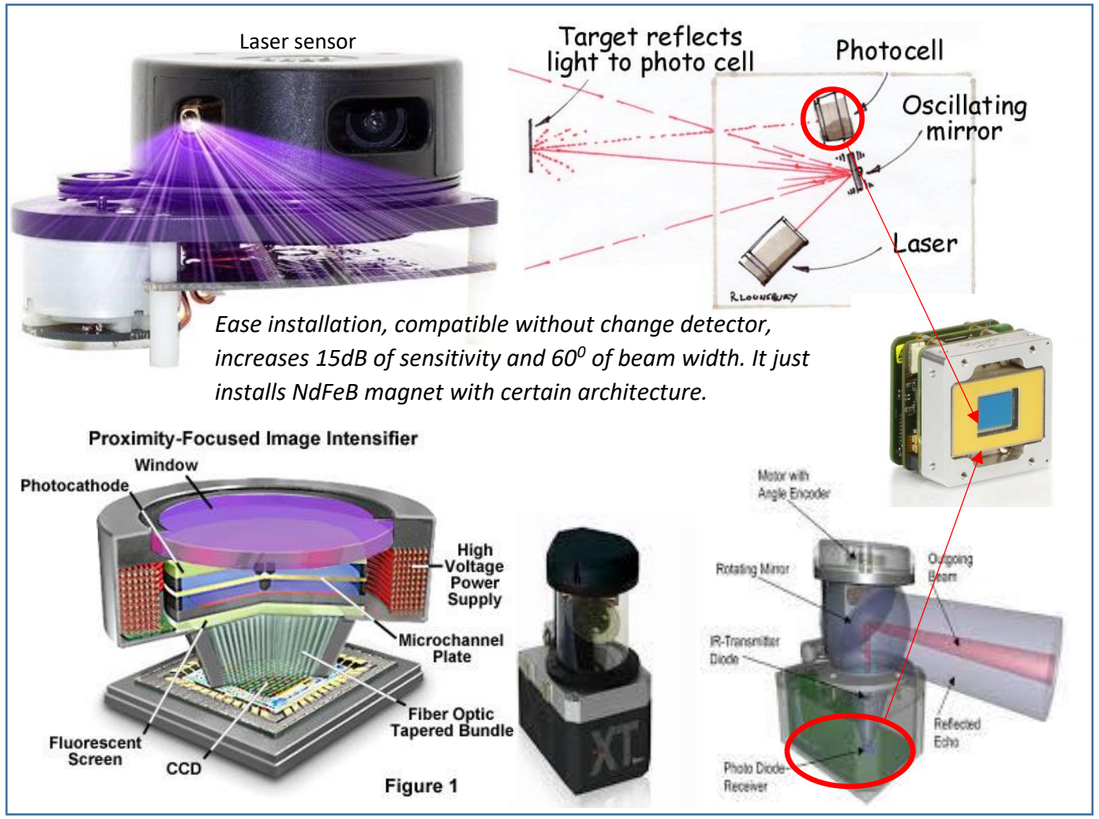
These machine will detect people and say hallo, greeting and asking. With voice recognize and easily simple touch screen will help people and bring it fill like home.

To do this job it will need more sensitive sensor technology and wireless communication that powered by high energy generating by solar cell and for high definition voice recognize technology. Files below quickly explain new innovations PEMF (Potential Electro Motion Force) method and Multi wires method that based on working prototype.

Voice recognize and command technology for blind people, easily simple touch screen for elderly and deaf people and also use regular languages. Sometimes other people will help that.

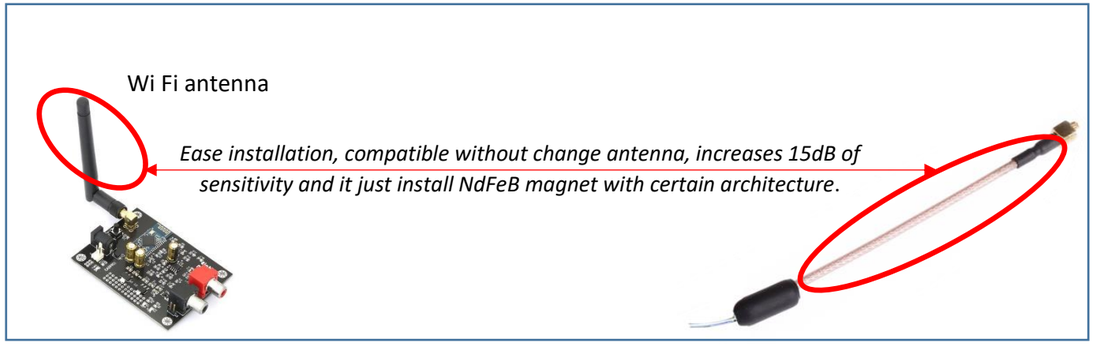
Innovation PEMF method

All laser and wireless communication technologies need photodetector as main part in sense & detect and need antenna to transmit and receive signal. Increase technology photodetector to sense & detect and technology of antenna will increase reliability, accuracy, and performance with novel technology PEMF (Potential Electro Motion Force) that increase reactivity electron moves in Photodiode/photodetector (Semiconductor) and Antenna (Conductor) in electromagnetic wave induction to sense & detect, electric generating and communication. This technology is ease to installation and maintenance, compatible and very low cost operation and installation.



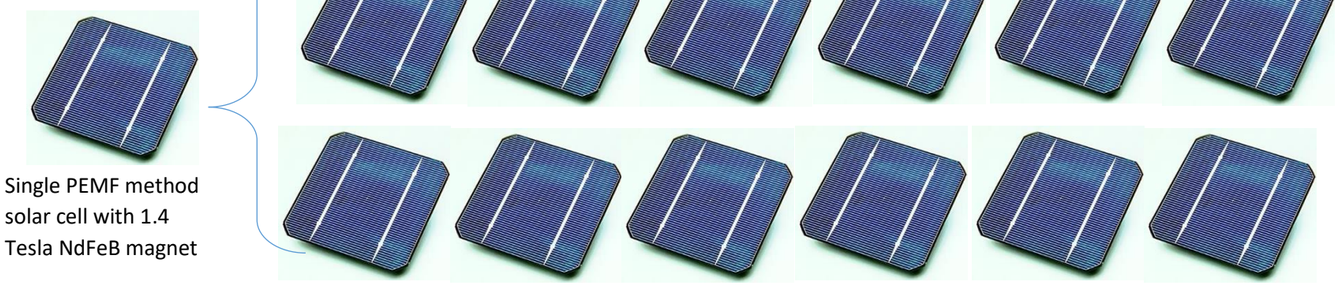
Ease installation, compatible without change detector, increases 15dB of sensitivity and 60^0 of beam width. It just installs NdFeB magnet with certain architecture.

Figure 1



With PEMF method:

- With increases antenna sensitivity and it will Increase reliability signal with decrease Bit error rate until 10^{-7} from 10^{-2} of communication.
- It also increases until 560% 0f accuracy detection and performance and increase more than 500% of range detection so it will increase area detection.
- Compatible in all detection and communication method with electromagnetic induction and work in all band of electromagnetic wave.
- Without change and substitute detector and detection system, it just by install NdFeB magnet with less than € 1 per detector and antenna, it is very low cost and temperature work until 300^0c.
- Possible to develop to next level detection.



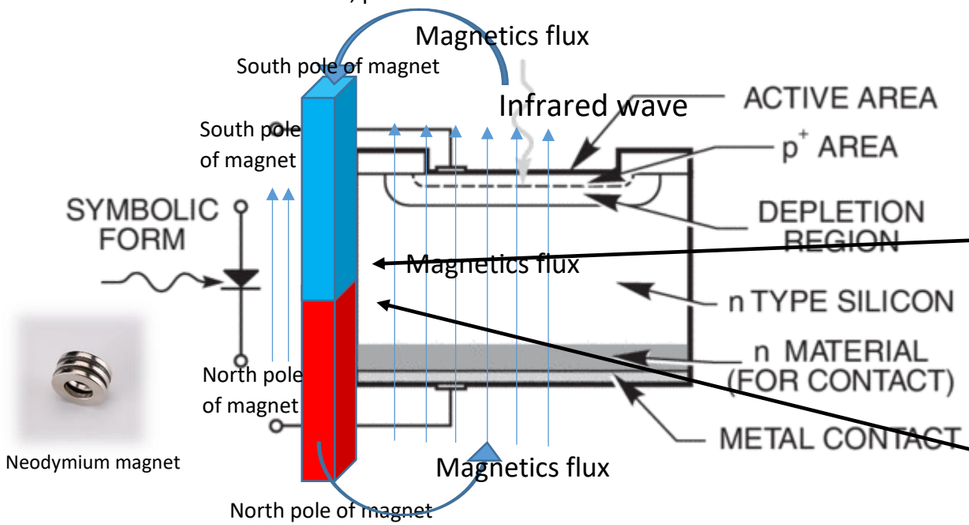
Single PEMF method solar cell with 1.4 Tesla NdFeB magnet

Solar cell with PEMF (Potential Electro Motion Force) method

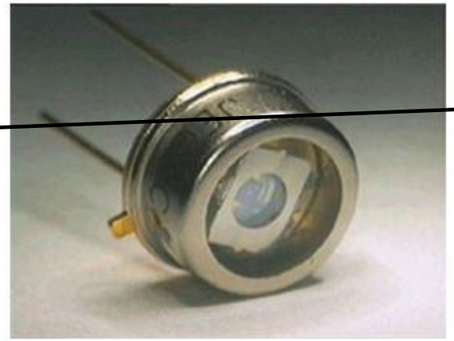
With Increase 500% output power and increase 128% angle of sense so Single PEMF method solar cell with 1.4 Tesla NdFeB magnet has electric output power more than 12 Conventional solar cells with same shape factor.

Application PEMF Method in IR, photodetector and solar cell

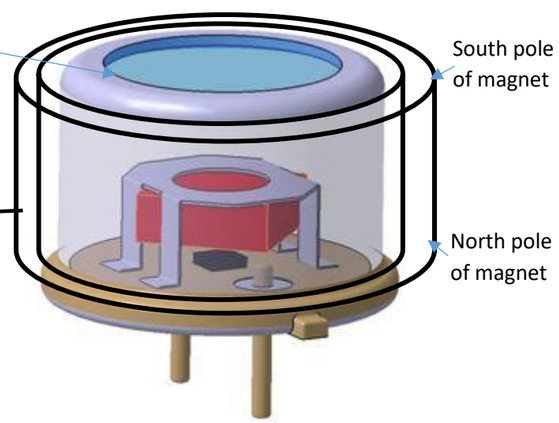
Main idea of PEMF method is inducts magnetic flux in the same direction with electron flow in semiconductor. Magnetic flux direction is from north pole to south pole and electron flow is opposite direction with electric current in semiconductor IR, photodetector and solar cell.

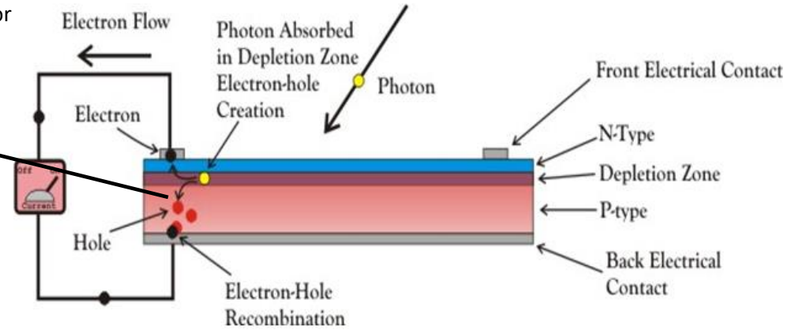


Neodymium magnet



InGaAs / InAsSb Infrared, photodetector





Solar cell with PEMF (Potential Electro Motion Force) method

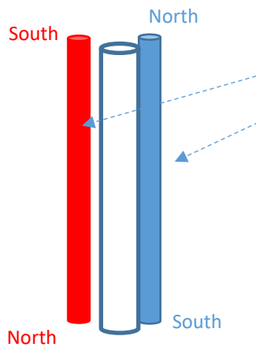
These methods are increase 15 dB energy output of solar cell and increase beam width 128% of angle of sense bigger than conventional solar cell without increase scale, cost of production and input power in same shape factor of solar cell but with additional NdFeB magnet and adaptability design of Photo diode.

Increase of power production of solar cell with same Shape factor and input power than conventional solar cell that can substitute to decrease dimension of solar cell to product equal power level, so the solar cell is more effective in energy and dimension than before.

PEMF method in antenna for wireless communications

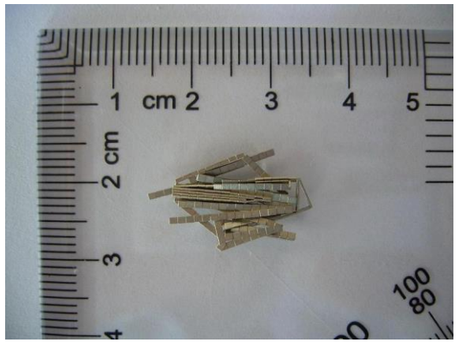
Parabolic antenna receptor single or dual pole.

Permanent magnet with opposite pole position

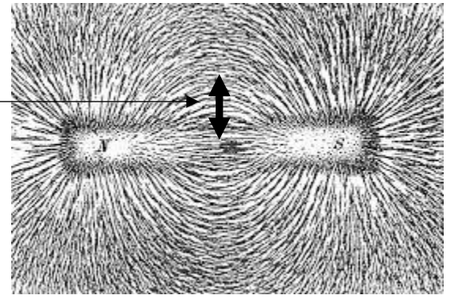


PEMF method in antenna

Optimum range magnet with antenna receptor are based on magnetic flux density. Use isolator matter for positioning magnet to antenna receptor.

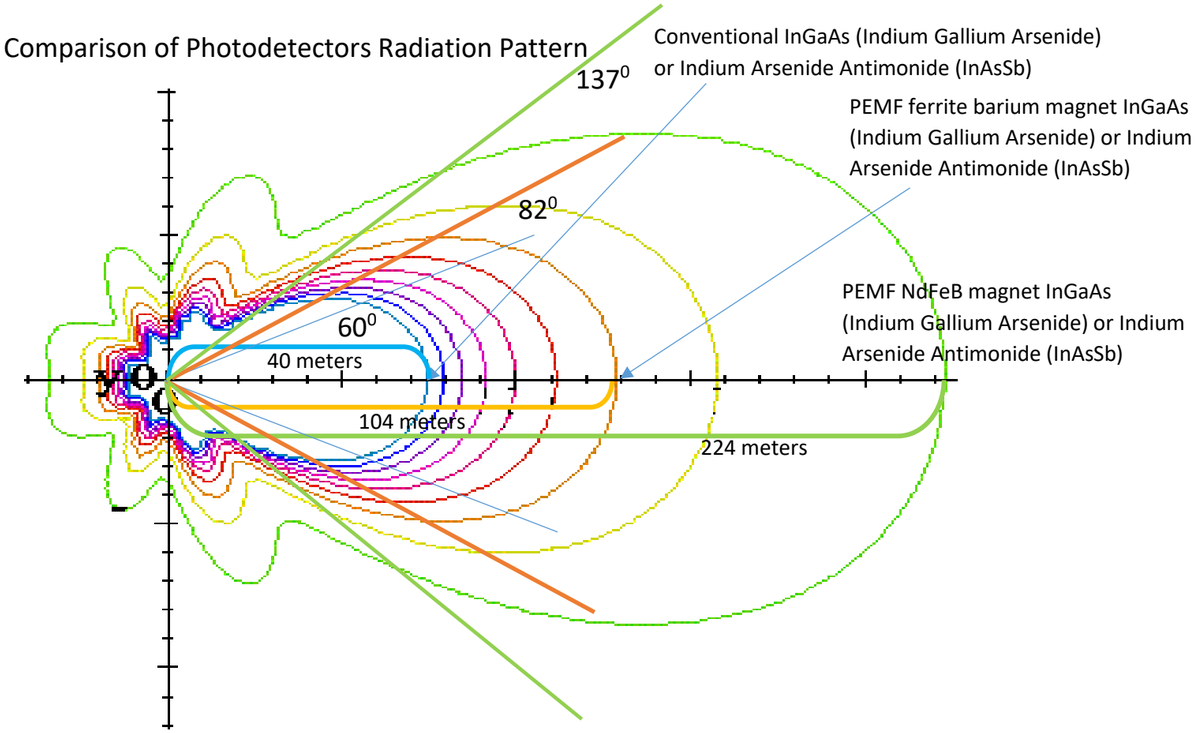


Small NdFeB N52 magnet

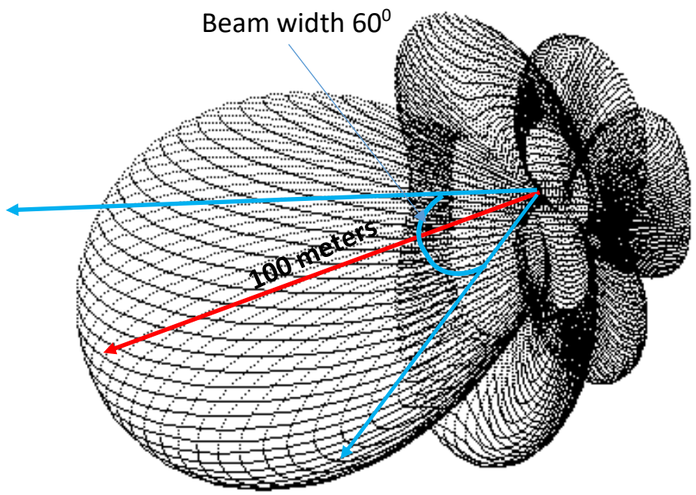


Magnetic flux density

Comparison of Photodetectors Radiation Pattern



Comparison of antenna Radiation Pattern



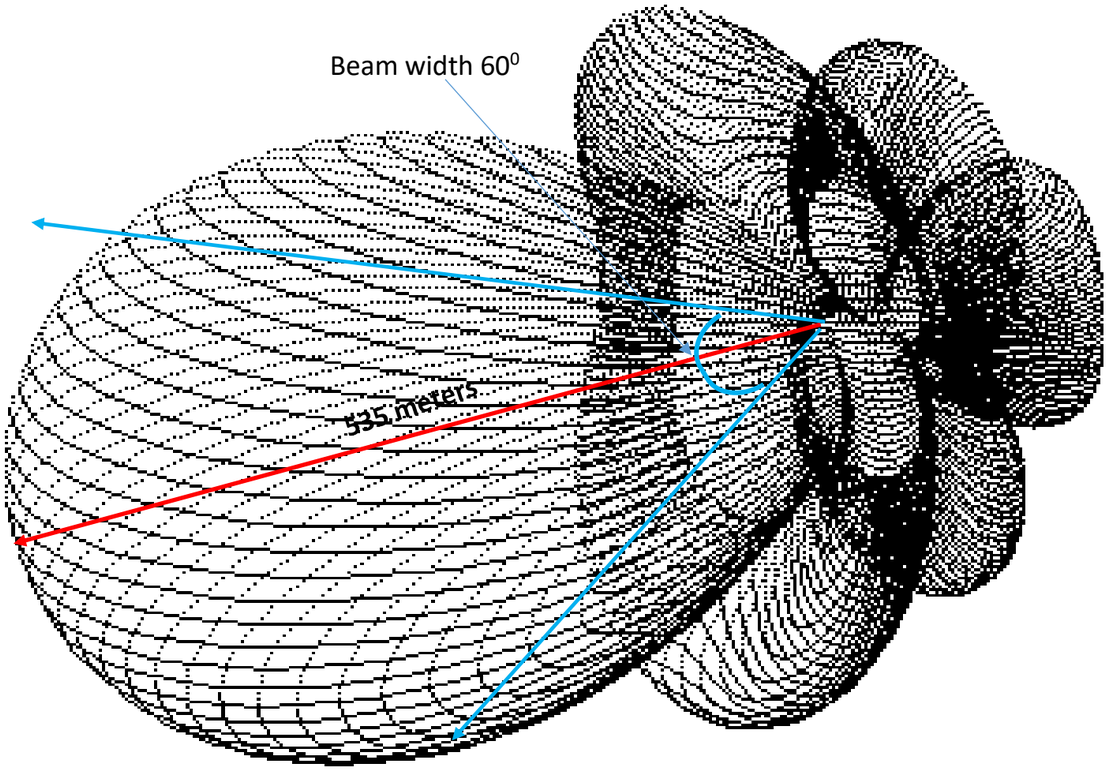
Conventional antenna radiations pattern with beam width 60^0 and maximum range detection 100 meters.

Increasing signal quality and accuracy detection with PEMF method in Photo detector

Low quality detection with conventional detector

High quality detection with PEMF method

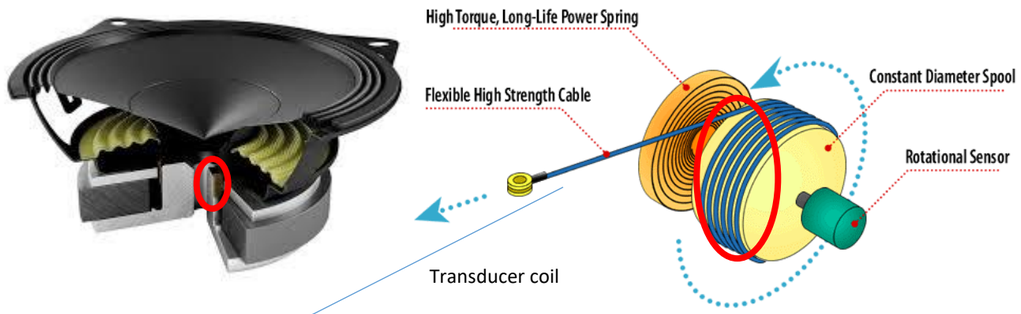
This technology will ease to detect people with face recognize

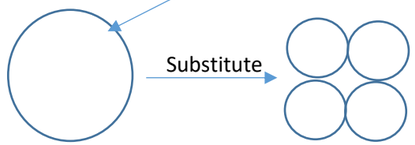


PEMF NdFeB magnet antenna radiations pattern with beam width 60^0 same with conventional antenna and increasing maximum range detection 535 meters with same characteristic with conventional antenna.

Innovation multi wires method and Technology specification

Multi wires method is new innovation technology that compatible and capable applicate directly in conventional electric signal to voice transducer and voice to electric signal transducer in all band of frequencies, all kinds of transducer and all power level by directly applicate with conventional transducer. There are two main parts in transducer and how multi wires method increase it technology as visualization below.

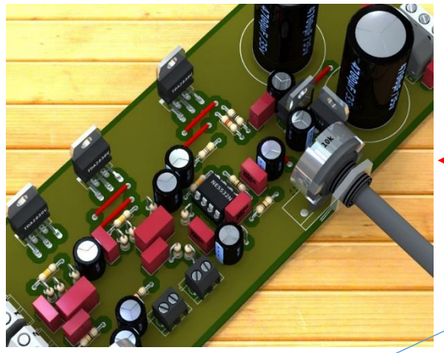


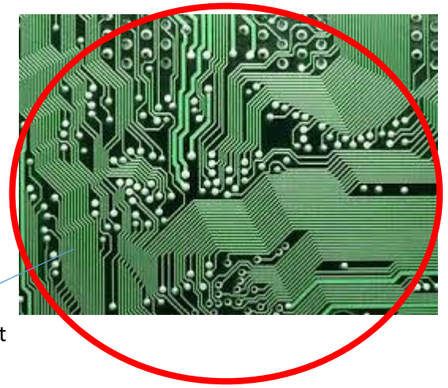


Or

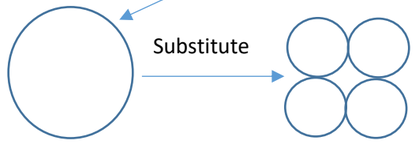
Use four wires with equal dimension with conventional coil wire and increase of length to make equal load or impedance (Z).

Wire of coil substitute with several small wires





PCB circuit



Wire of PCB circuit substitute with several small wires

Substitute single big wire with four small wires that have same size will increase quantity electron flow or have [L] = 2. It will increase quantity electron flow equal with [L]. Applicate multi wires method with [L]= 2 (substitute single wire with four small wires) will increase technology and capabilities of transducer such as:

- Effectively attenuate noise levels greater than 160 dB in All band of frequencies. With [L] = 2 it will increase quantity electron flow and decrease all causes of noise equal with [L]. With [L]=2 it will increase efficiency attenuate noise = 20 log [L] for coil and for PCB circuit so for 140 dB conventional cancelling noise transducer applicate multi wires method will increase efficiency attenuate noise level = 140dB + 20 log [L] coil + 20 log [L] PCB = 164 dB
- Increase efficiency of speaker technology of voice transducer equal with [L]. it will increase output power equal with $[L]^2 = 4$ so it will increase efficiency from 0.1% - 15% to 0.4% - 60%.
- All substitute wires capable work more than 300^0C of temperature, without losing efficiency because of increase of quantity electron flow [L] and work in all band frequency and all kind of transducer.
- Multi wires method capable directly use in conventional transducer without increase dimension, weight, and cost production significantly.
- Increase of [L] will increase magnetic flux of coil equal with [L] = 2 and increase of power equal with $[L]^2= 4$ so with NdFeB magnet technology that have flux density =1300 Gauss equal with Multi wires method but with FeB magnet with flux density = 3700 Gauss but with more advantage that work until 750^0C.

Conclusion

All technology is based on working prototype and also work in other kinds technology that have similarity with Sensor, detector, antenna communications and transducer. These technologies are innovation in Logam Energy as technology transfer agency.