

# **CELLULAR SIGNAL RECEPTION AND BOOSTING**

**A PRESENTATION BY**

**P.VISHNU (1602-18-735-060)**

**V. VIGNA (1602-18-735-305)**

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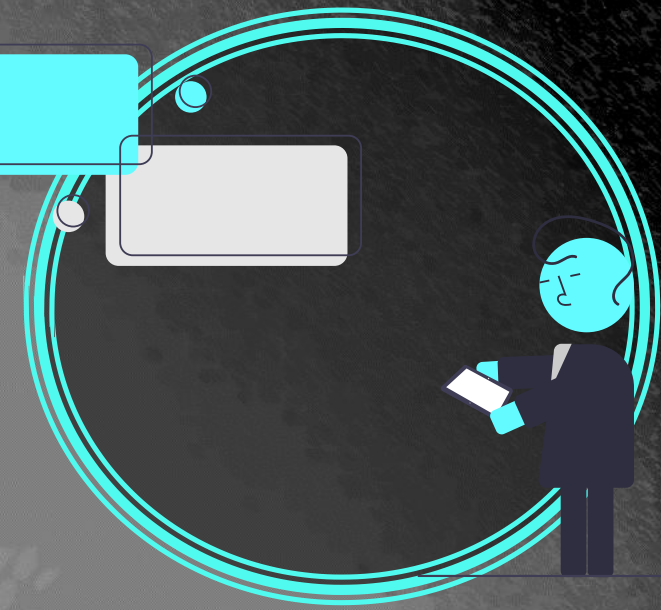


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# Problem statement

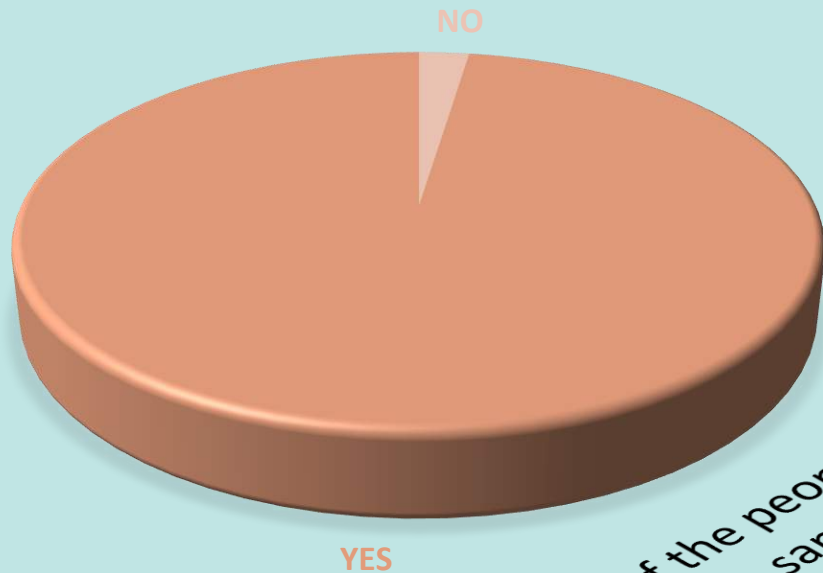
Assume there is a building containing a bulk of network demanding users. But due to some reason there is no proper signal in that building, raising the inconvenience among users. You are sought to find a solution for this problem and provide a report on why this problem exists and how this can be solved. As an engineer you are expected to disclose the science behind your solution.





# Survey analysis

DID YOU FACE ANY SIGNAL PROBLEM IN OUR BLOCK?

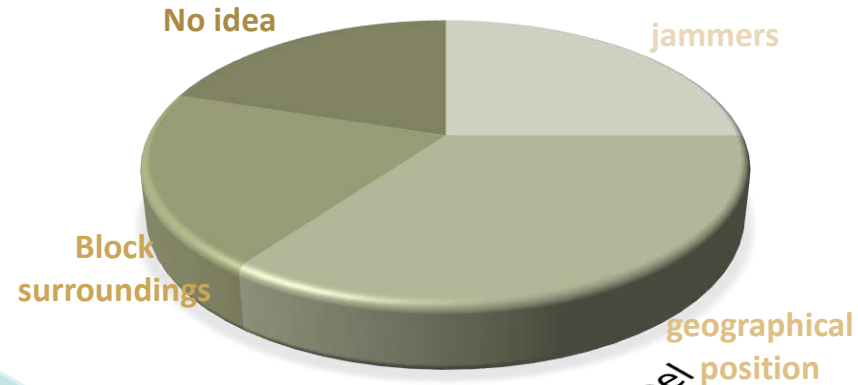


Majority of the people are facing the same problem due to lack of signal.

Target Audience  
132 people

Received responses  
41 people

WHAT YOU FEEL AS THE PROBABLE REASONS FOR IMPROPER SIGNALS



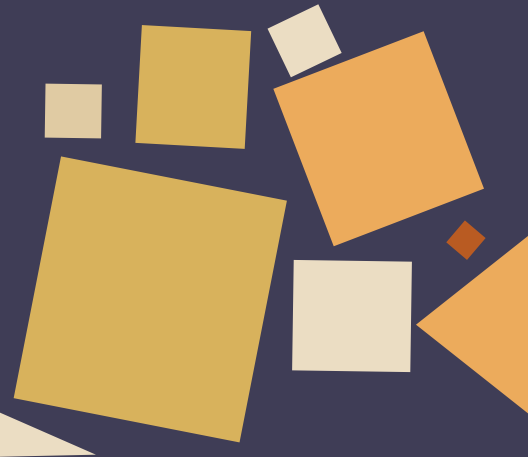
14/41 of the people feel geographical location as the major problem.

10/41 of the people feel jammers as the second most reason for signal problem.



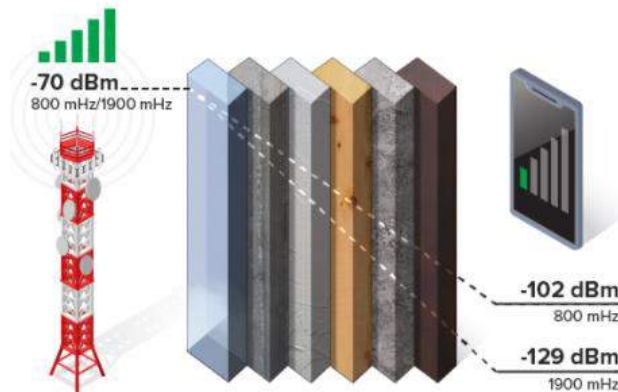
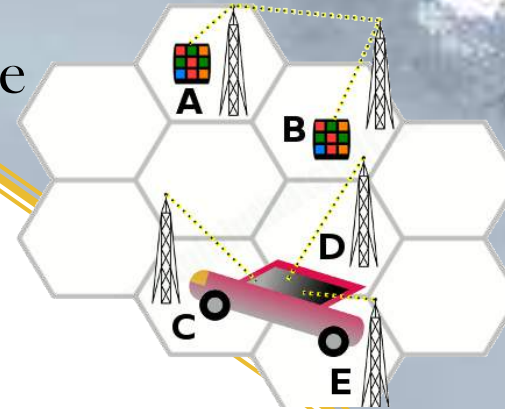
# Myth buster

myth	reality
Jammers in military area is blocking signal for us.	As per the government policy military areas are allowed to use jammers for operational purpose only. Moreover near LOC.  Ref: <a href="https://shorturl.at/nCIN7">shorturl.at/nCIN7</a>
the signals are jammed intentionally. By our college.	As per our information sources from the lecturers, there are no jammers installed in our block.



# The actual problem for low signal

- The first major reason for the problem is the geographical location as predicted by most of the members in the survey.
- The Second major reason could be the architecture of the building or the external factors like buildings trees etc.



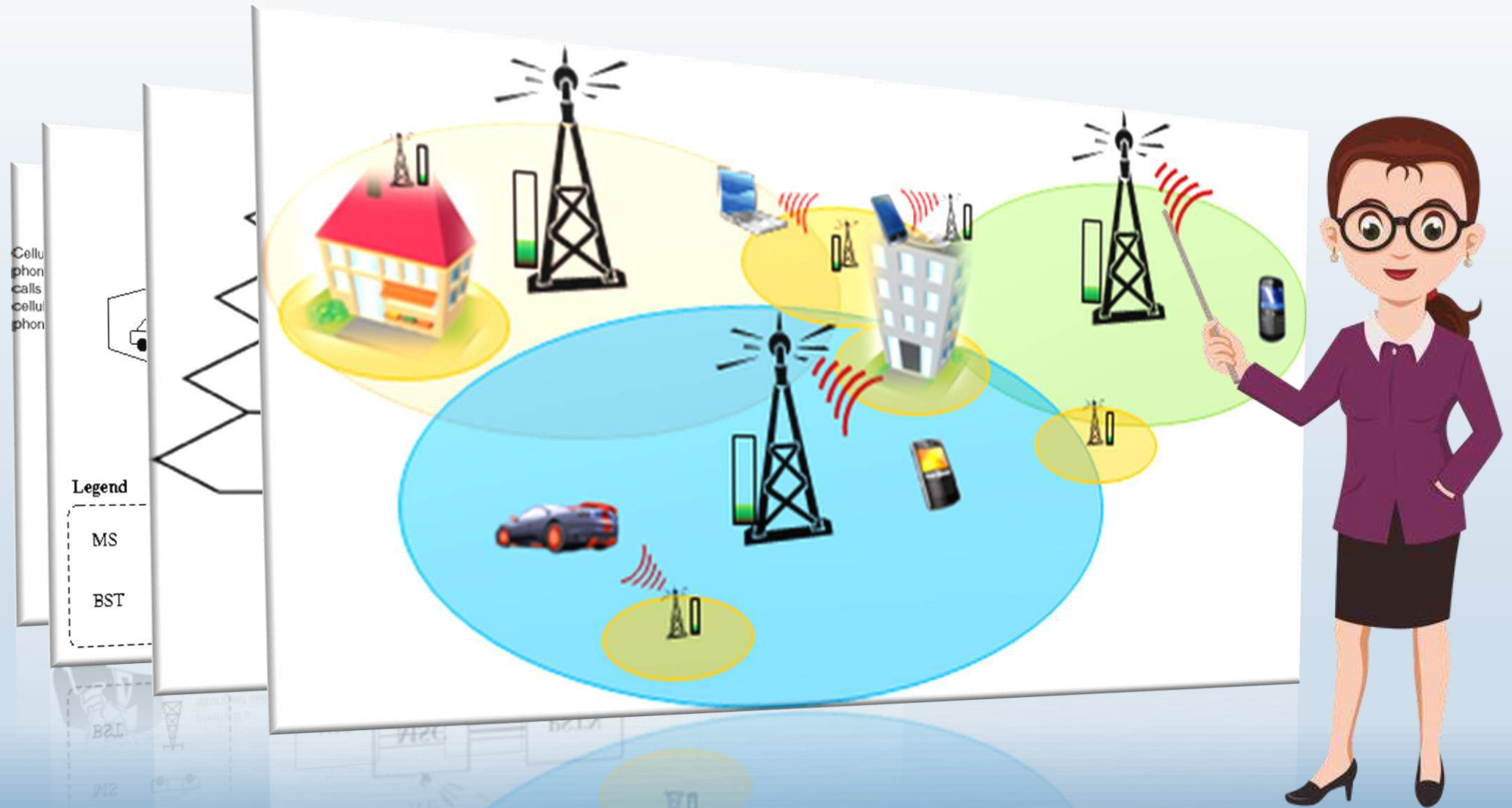
# our study

- Our Study intends to get the basic understanding of the Cellular Communication.
- Main point of interest is to find an apt solution to the existing problem in our Block.
- Our Study predicts the reasonable solution for the problem in our block.
- Our study briefs the science behind the assumed solution for the problem. Like the basic processes like receiving , Amplifying and transmitting signals.



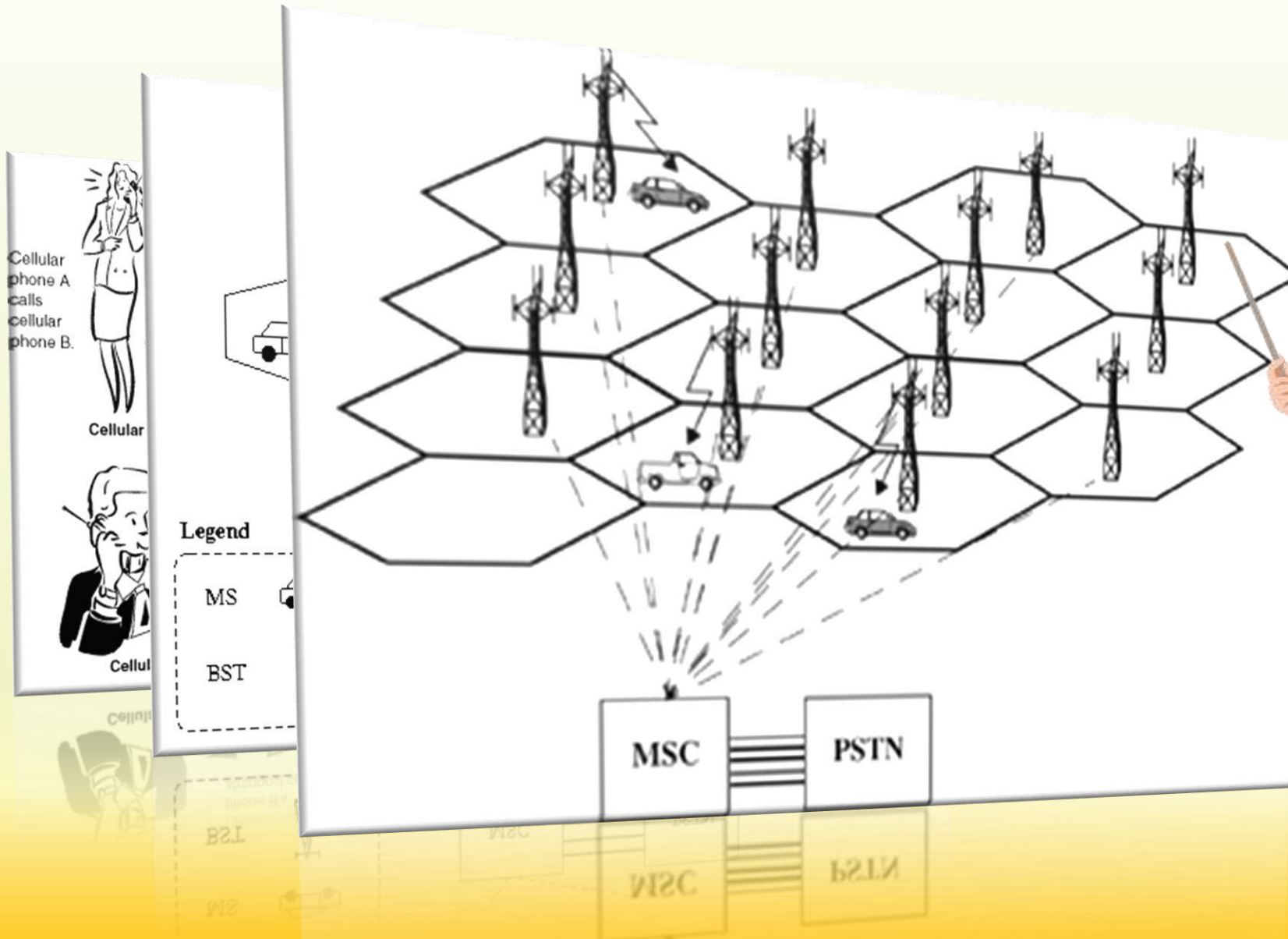


# Cellular communication

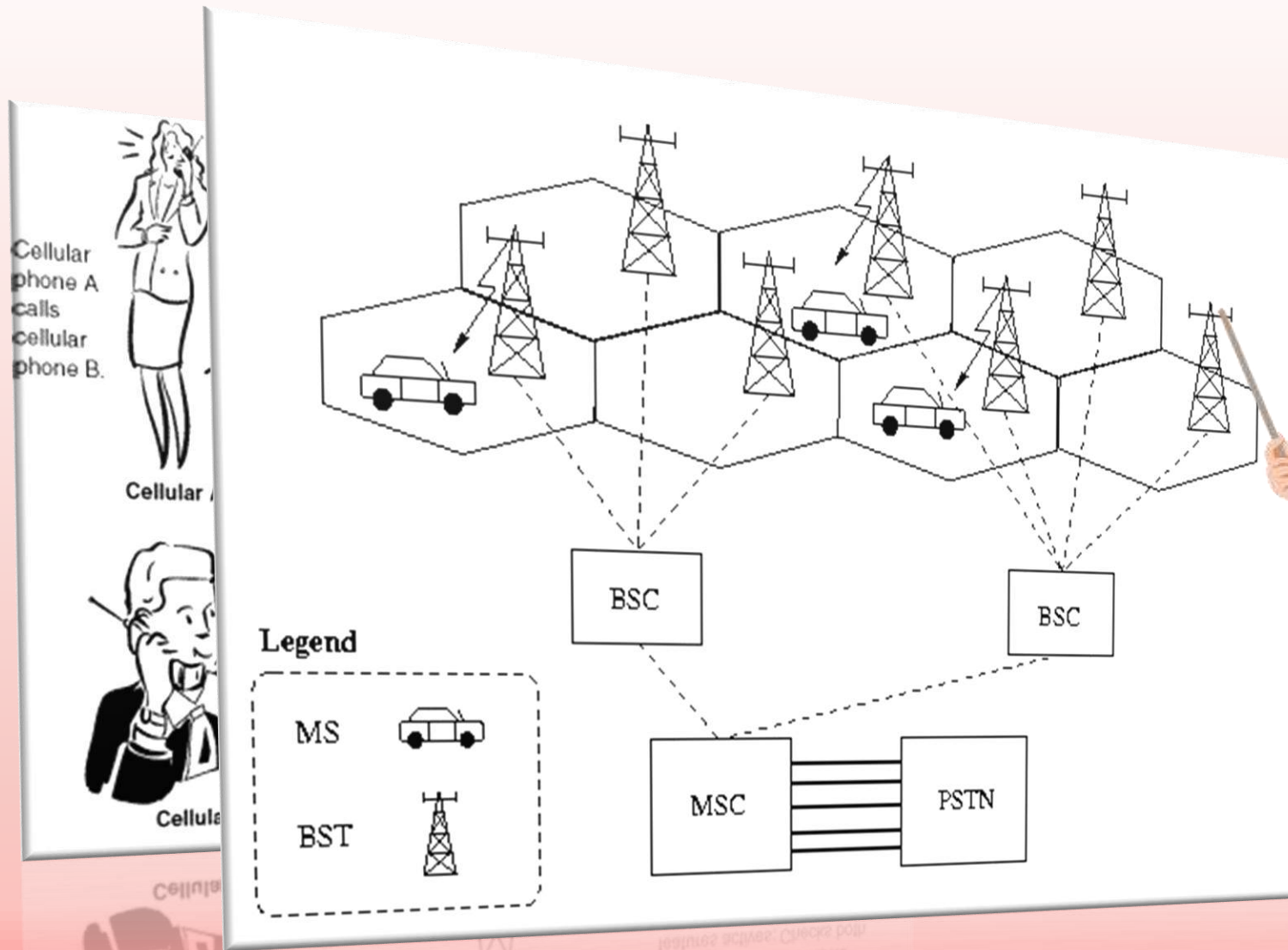




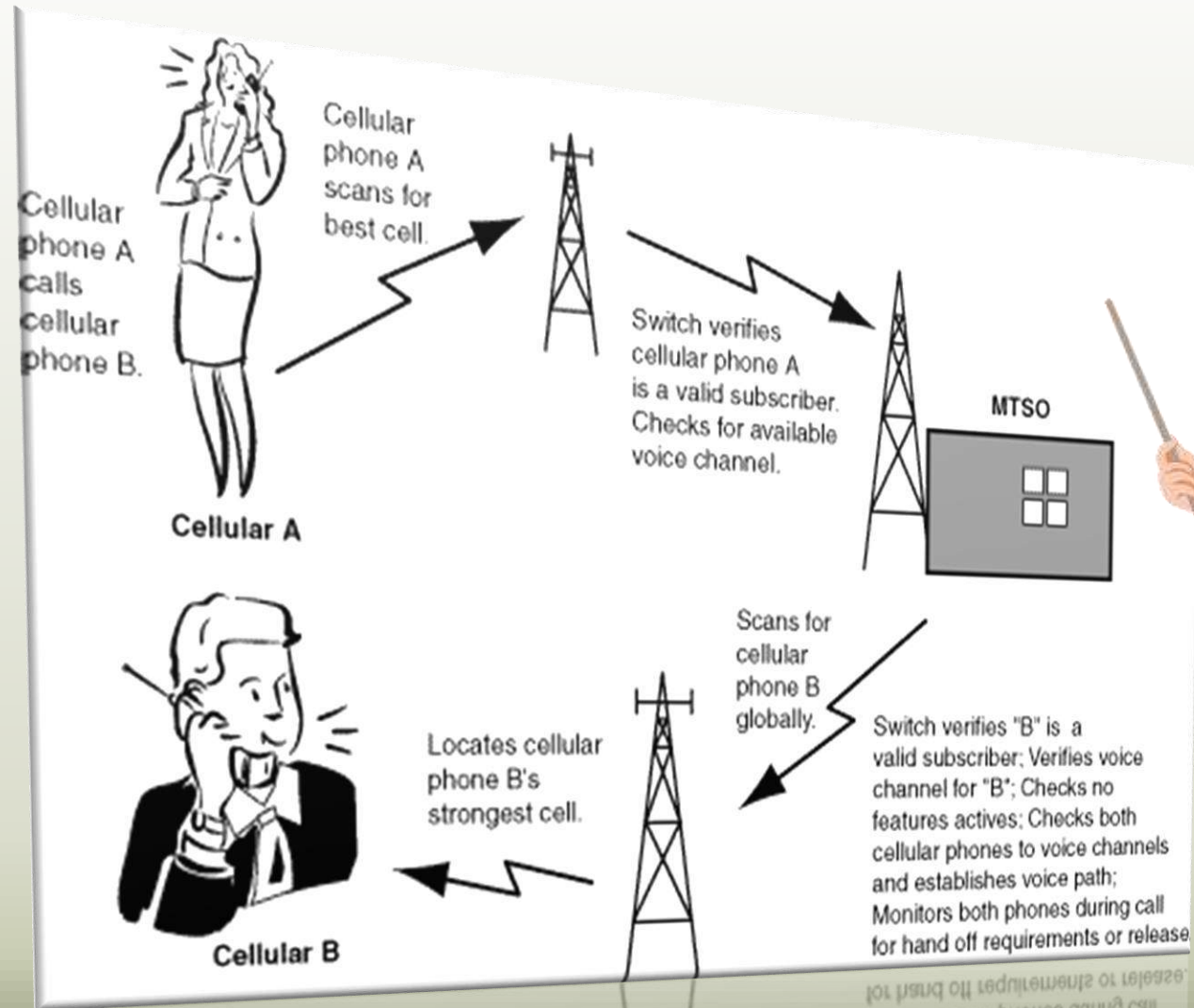
# Cellular communication



# Cellular communication

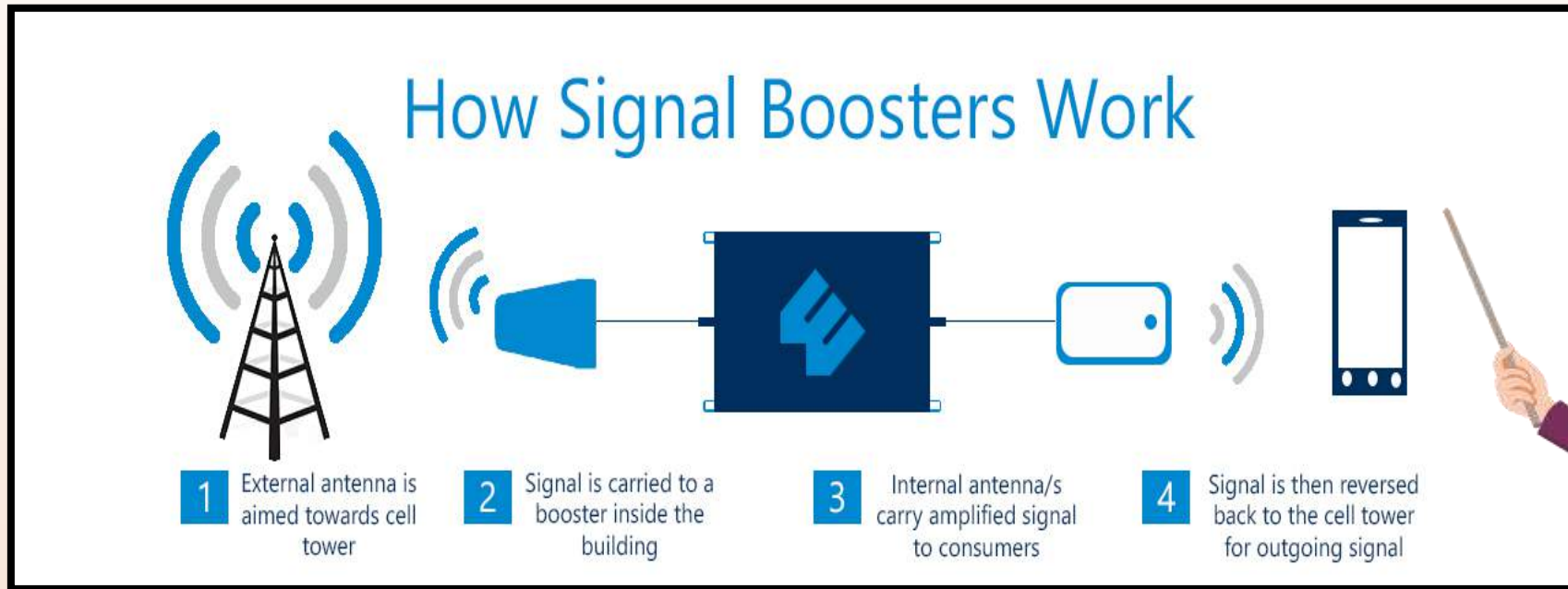


# Cellular communication





# Signal booster mechanism



# Outputs of our Study

As we have understood the basic internal architecture , we could tend to implement this as a project.

## Limitations :

1. As per the available infra , making a research and building a prototype to solve our problem could be a real conundrum
2. Its working efficiency wouldn't be able to handle our current problem.
3. Cost and funding will be more than the actual product itself.
4. License from Telecom sector is needed to perform this process.

How the actual products in the market are like?



# Products in the market

**NEW**



**SEGURO SSG705**  
(CDMA,DCS,3G,4G)  
MOBILE SIGNAL BOOSTER

**Features:**

- ⦿ Fewer dropped calls, Improves voice quality while calls, Better data connectivity.
- ⦿ Compatible with Airtel, Vodafone, Idea & Jio.
- ⦿ Works with all Cellular devices: Smartphones, Tablets, Data cards.
- ⦿ Range upto 3000 sq. ft.
- ⦿ Auto Gain Control.
- ⦿ Clever Cooling System.

**Kit Content:**

- ⦿ 1 Signal Booster (SSG705)
- ⦿ 1 AC Adapter (SSGAD6680)
- ⦿ 2 Panel Antenna (SSGAN8025)
- ⦿ 15m Wire (SSG400)

**SSG705 : RS. 89999\*/-**

**NEW**



**SEGURO SSG705(M)**  
(CDMA,DCS,3G,4G)  
MOBILE SIGNAL BOOSTER

**Features:**

- ⦿ Fewer dropped calls, Improves voice quality while calls, Better data connectivity.
- ⦿ Compatible with Airtel, Vodafone, Idea & Jio
- ⦿ Works with all Cellular devices: Smartphones, Tablets, Data cards.
- ⦿ Range upto 1500 sq. ft.
- ⦿ Auto Gain Control.
- ⦿ Clever Cooling System.

**Kit Content:**

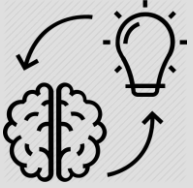
- ⦿ 1 Signal Booster (SSG705(M))
- ⦿ 1 AC Adapter (SSGAD6680)
- ⦿ 2 Panel Antenna (SSGAN8025)
- ⦿ 15m Wire (SSG400)

**SSG705(M) : RS. 52499\*/-**





# Conclusions

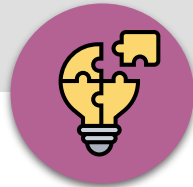


## Implementation status

As per the statement given by one of our lecturers **“College Might not be implementing the signal boosters but can provide us with better Wifi facility than previously available.”**



- This paper provides the nitty-gritty of cellular communication and signal amplifiers.



- The detected existence of problem in our block is majorly due to the geographical location and also the architecture.



- Understanding of the internal architecture reveals the uprising complexities which acts as the limitations when we tend to build the prototype



- Building a product could be a real conundrum keeping in mind the present knowledge we acquired, But a Quick fix for this problem could be understanding the internal mechanism and opting for a product.



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# Thank you

*Thank you for giving us this opportunity.*



**Any queries?**