

voltimum



Mendes' Mind

Como Funcionam os Localizadores de Cabos

André Mendes

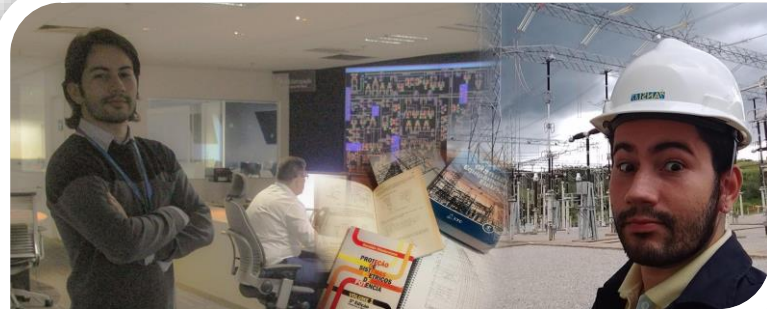
22 de março de 2023

Olá...



J. ROMA, Lda

Fundada em 1919



 **AES**
Eletropaulo

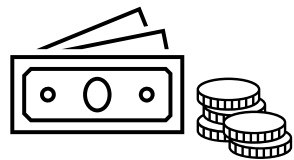
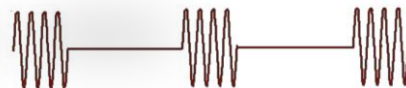
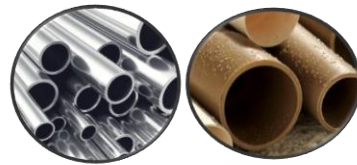
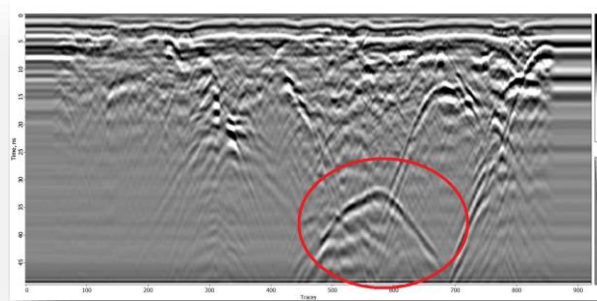
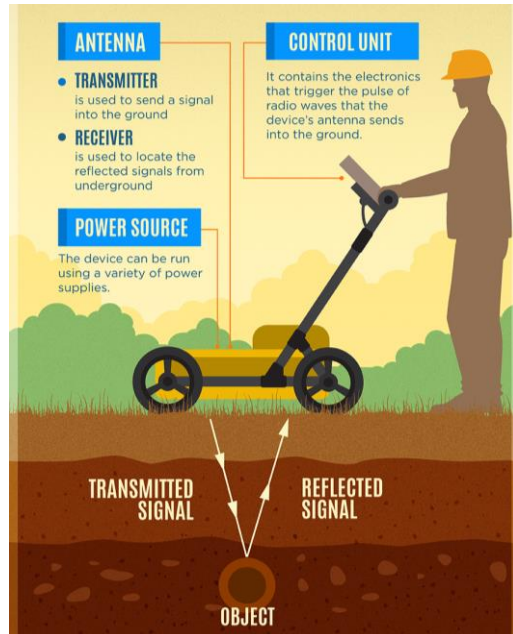
 **ANSI 87**



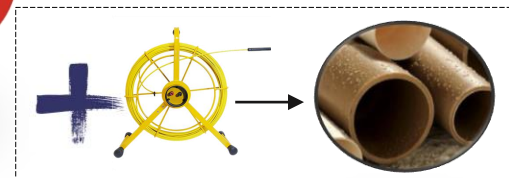
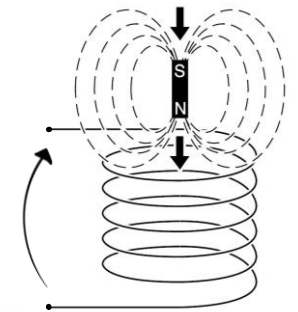
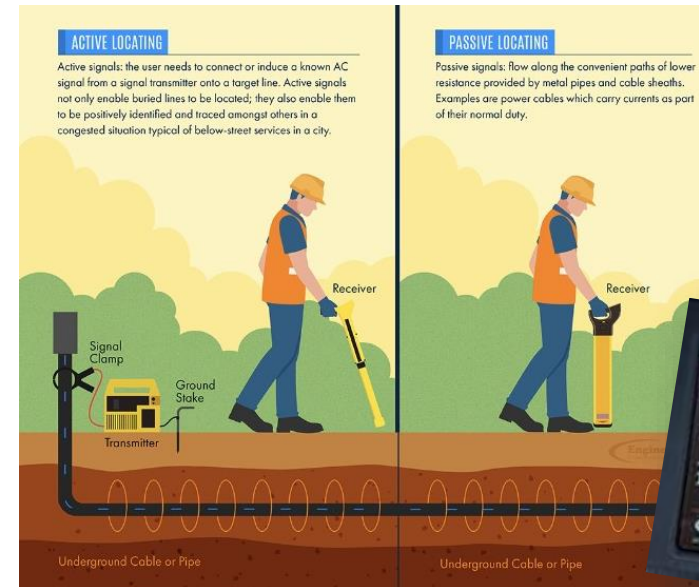
DCS Norway AS

GPR - Ground Penetrating Radar

Georadar / Radar de Penetração no Solo



Localização Eletromagnética





Michael Faraday

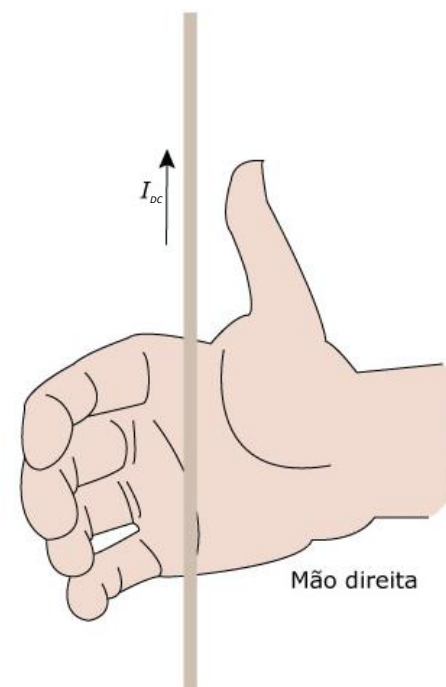
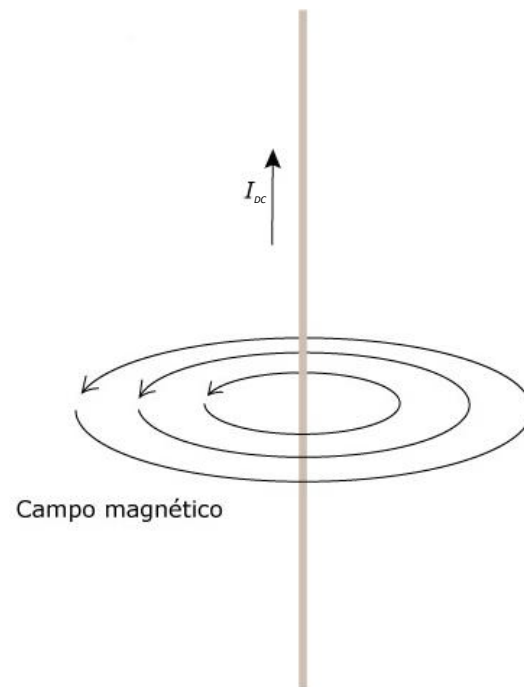
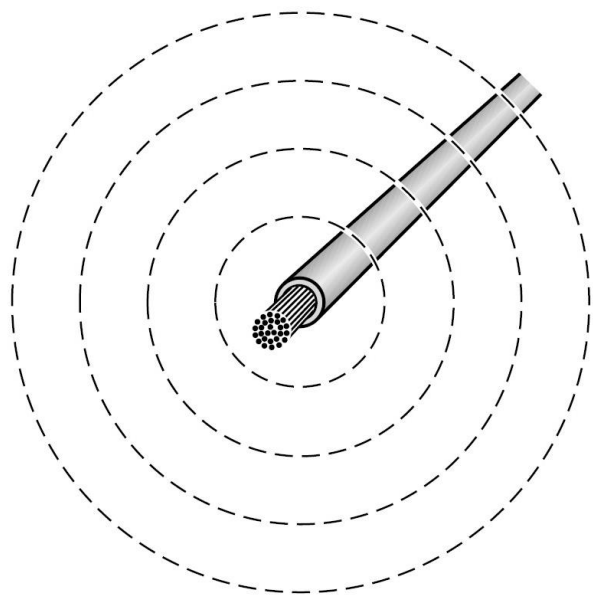
início do séc. XIX



Alemanha, provavelmente 1910.

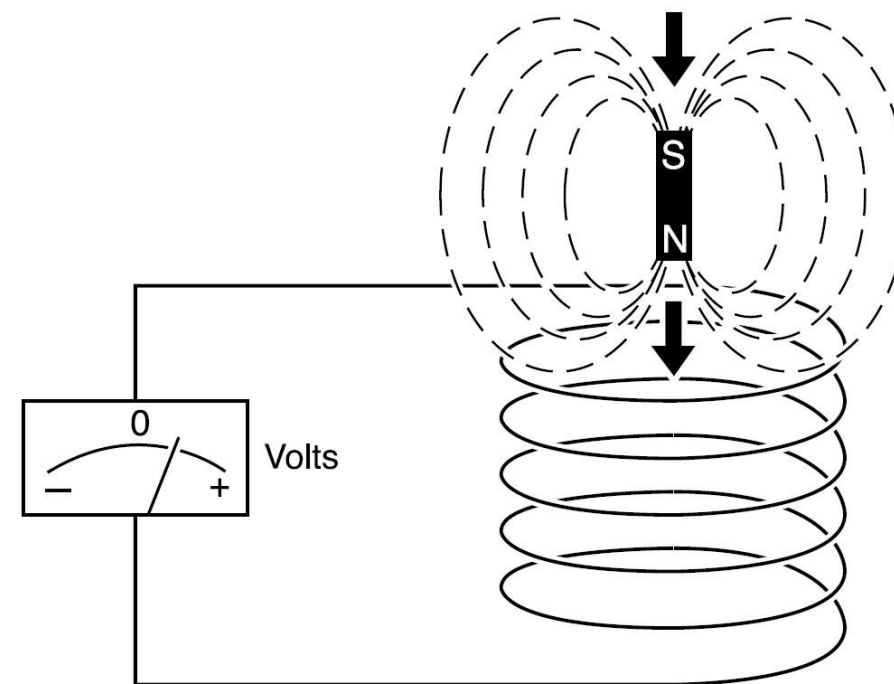
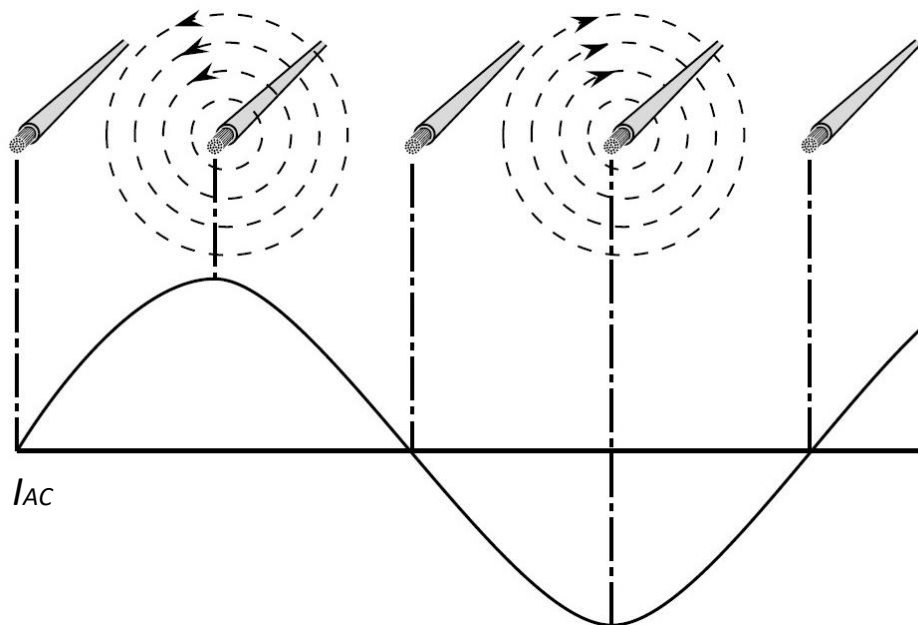


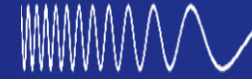
Review





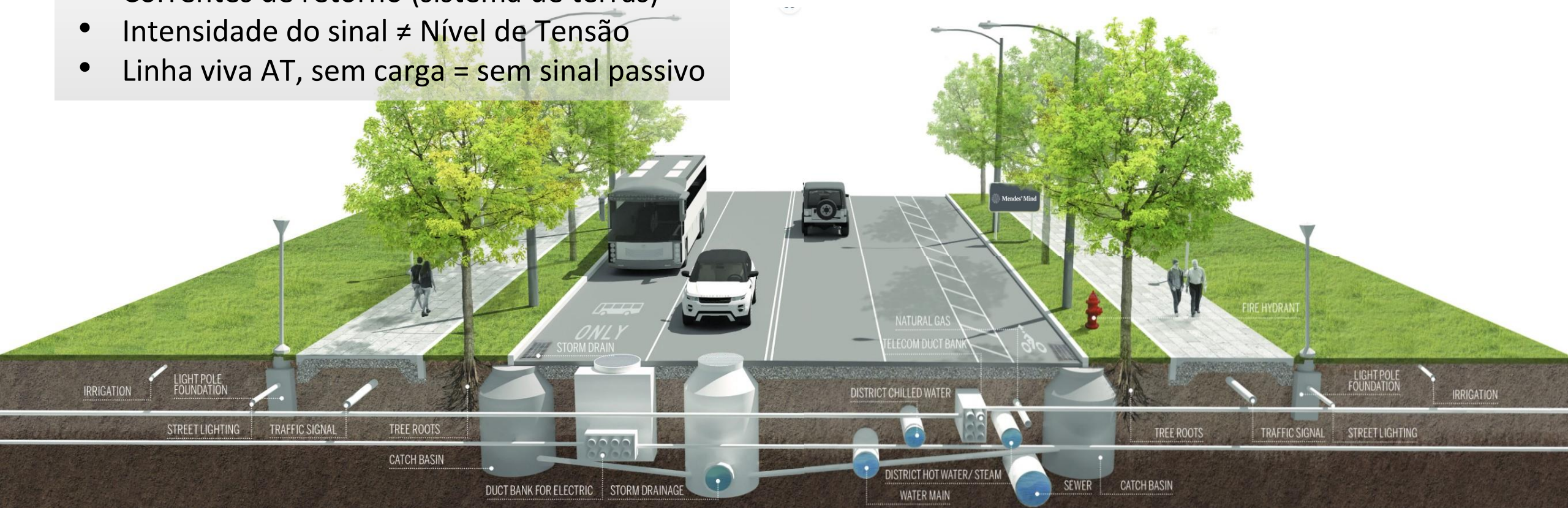
Review

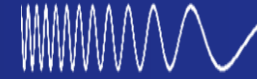




Sinais Passivos

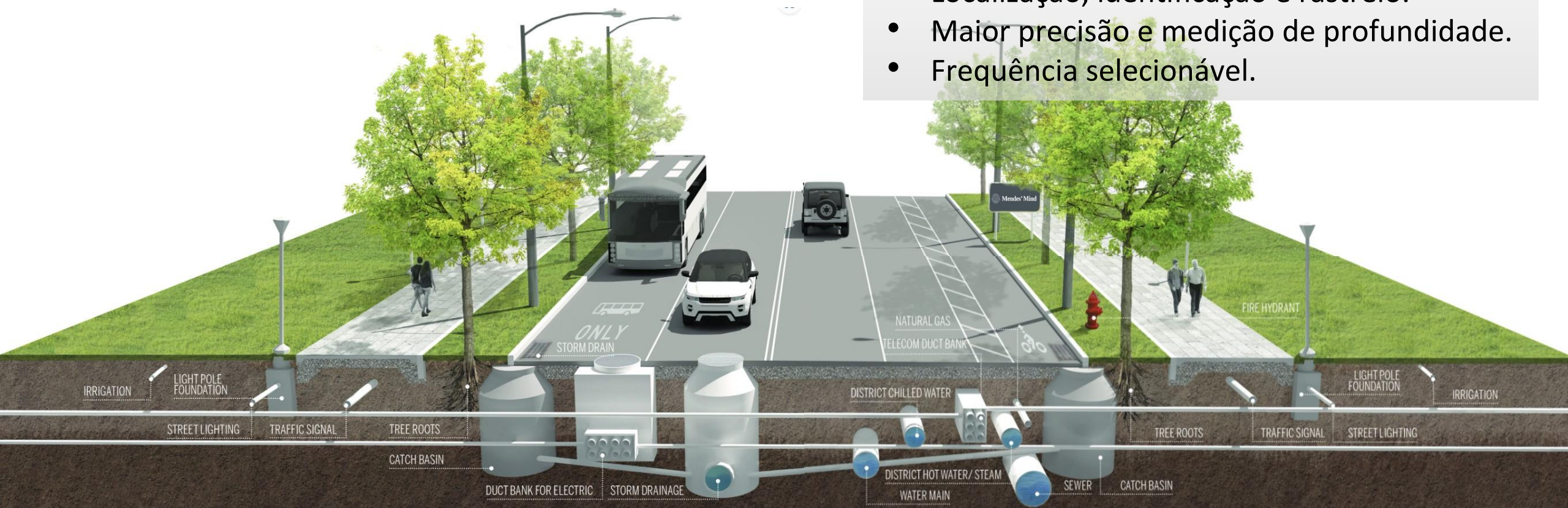
- “Naturalmente” presentes
- Cabos de serviço AC
- Correntes de retorno (sistema de terras)
- Intensidade do sinal $\neq$ Nível de Tensão
- Linha viva AT, sem carga = sem sinal passivo





Sinais Ativos

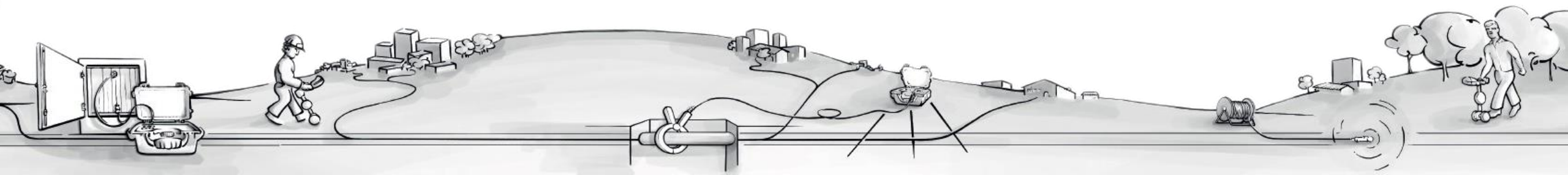
- Resultam de uma ação do operador: Conectar ou induzir um sinal AC.
- Localização, identificação e rastreamento.
- Maior precisão e medição de profundidade.
- Frequência selecionável.





Operação Passiva

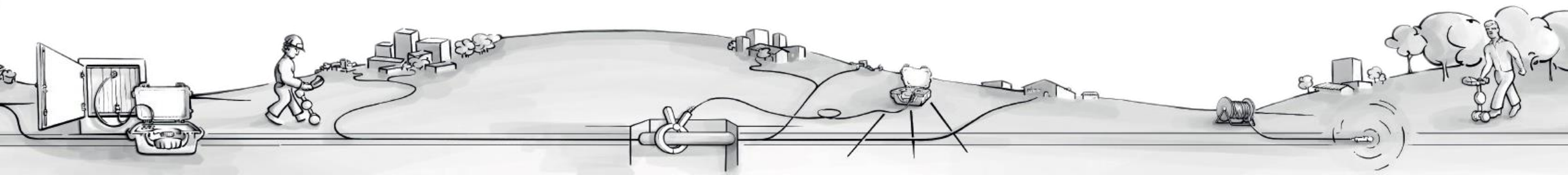
- Apenas o receptor
- AC 50/60Hz
- Fácil localização
- Identificação e rastreamento difíceis devido a presença de outros condutores e correntes fluindo para terra.





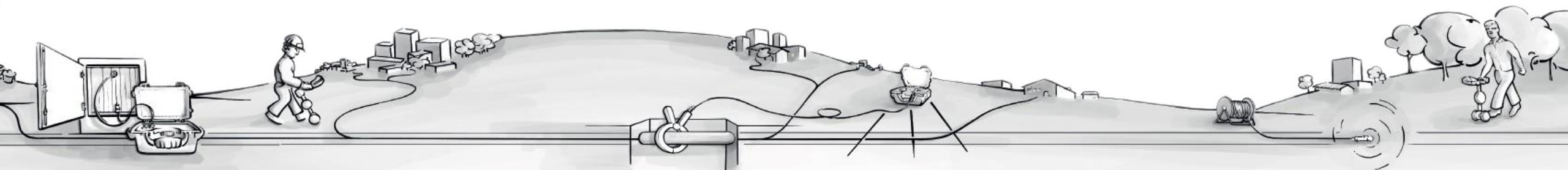
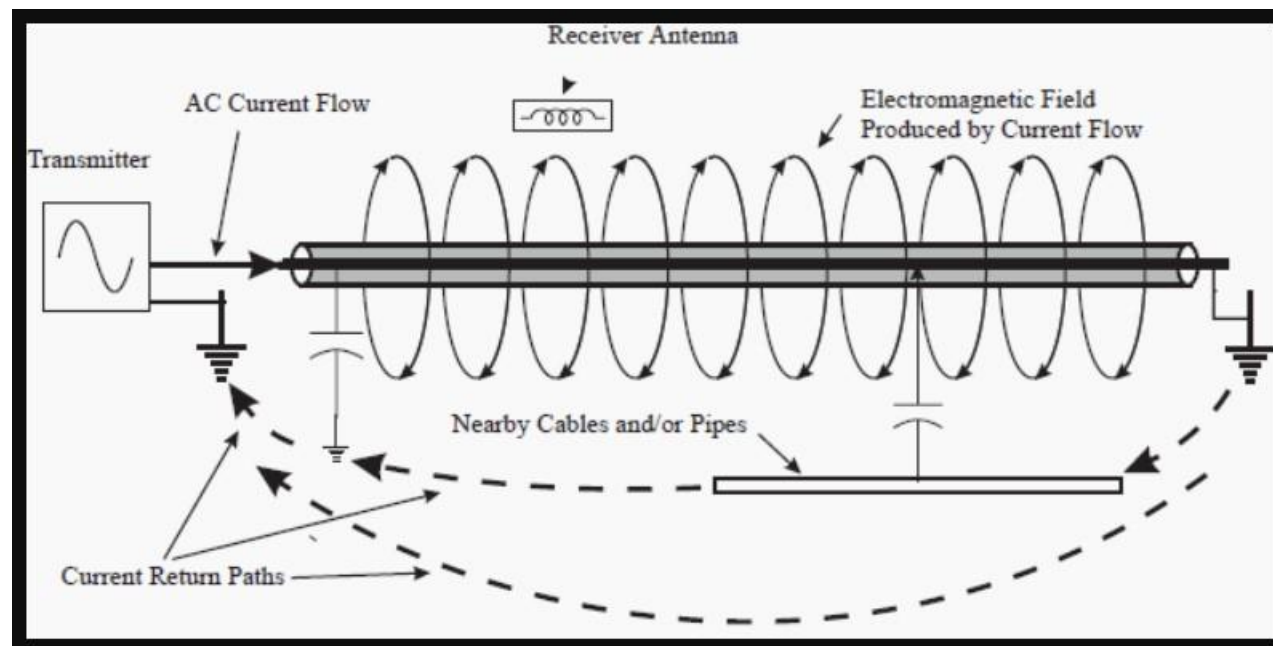
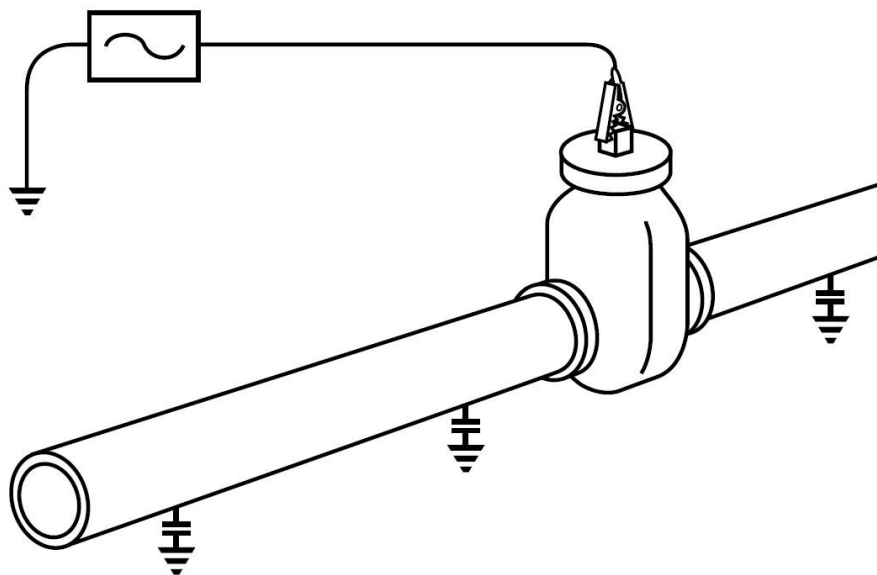
Operação Ativa

- Necessita de um transmissor
- Fácil localização, identificação e rastreamento
- Injetam sinal de forma Direta ou Indireta, com ou sem contato.



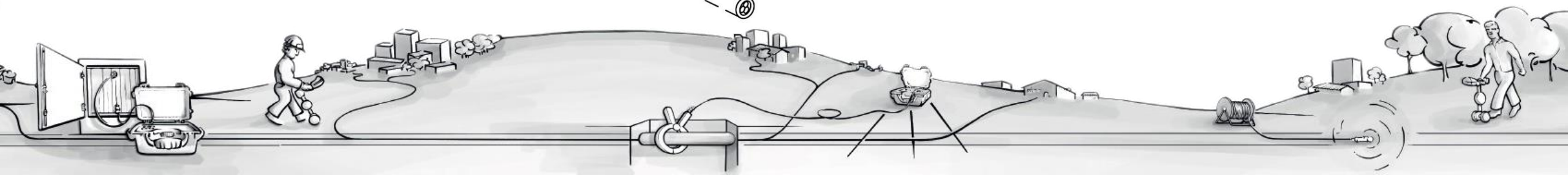
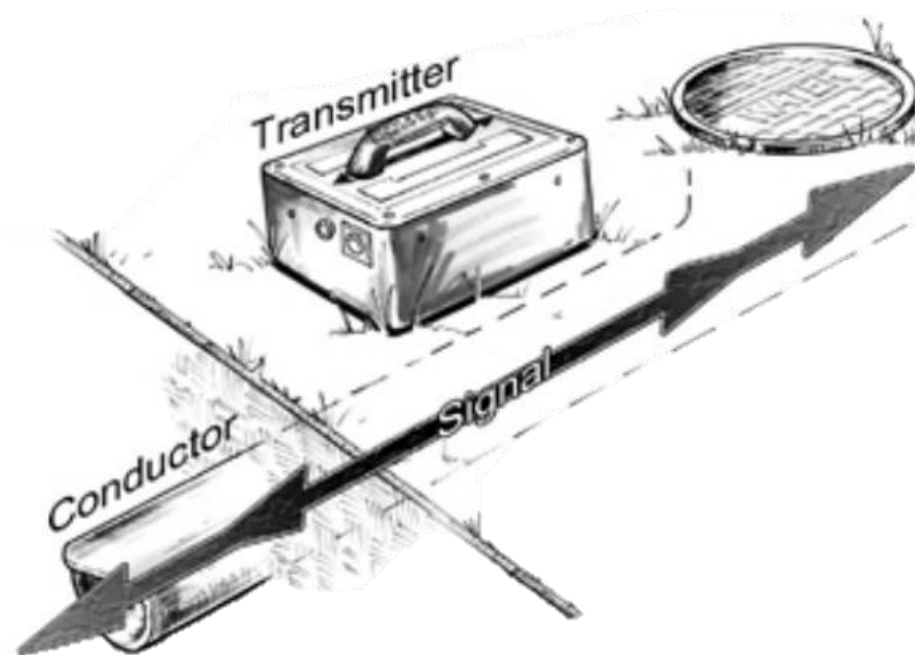
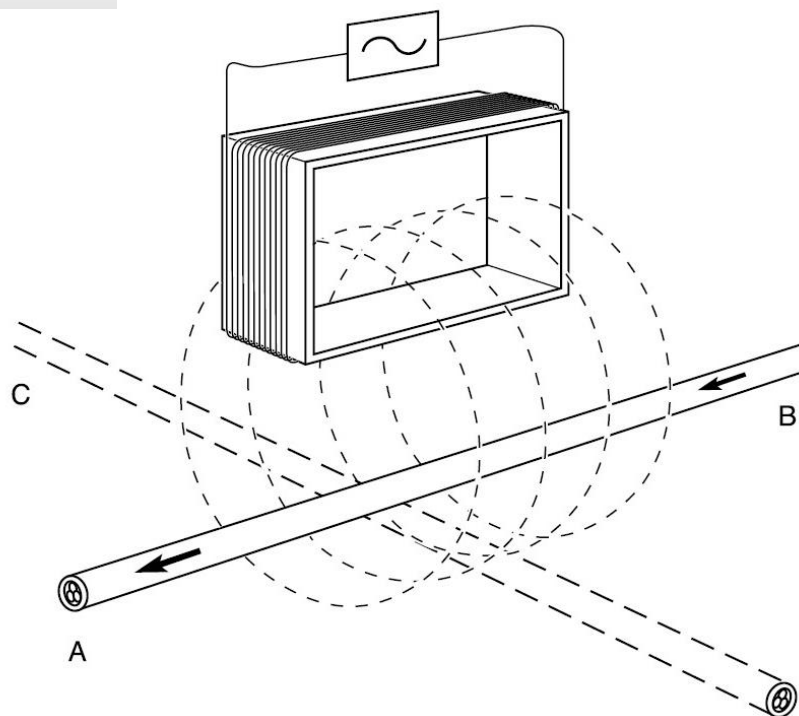


Conexão Direta



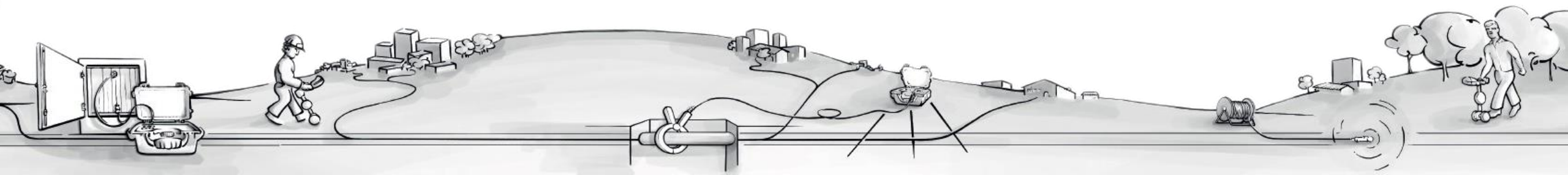
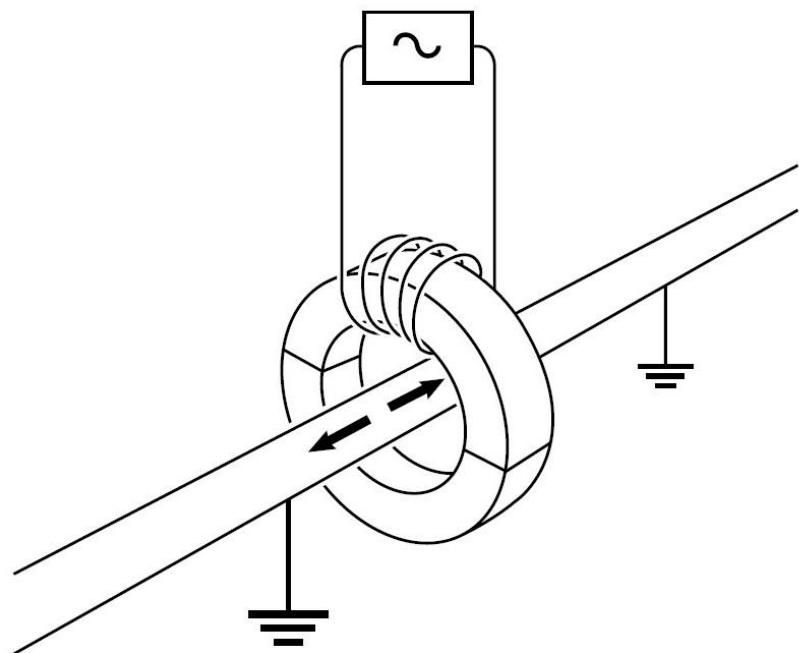


Indução



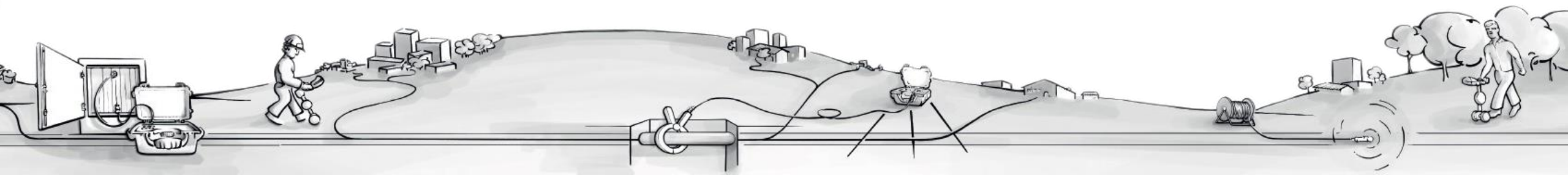
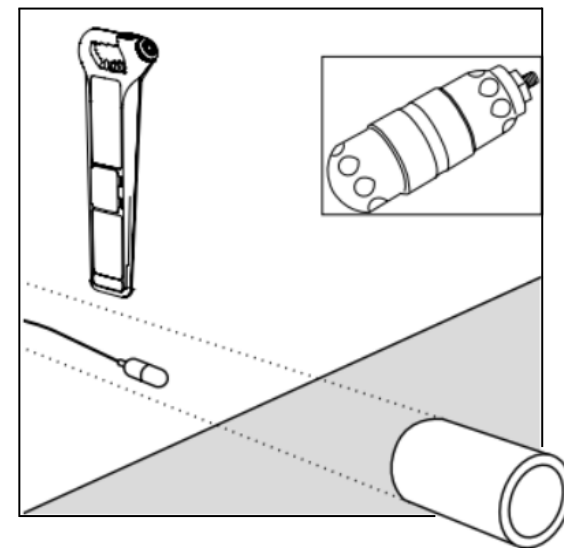
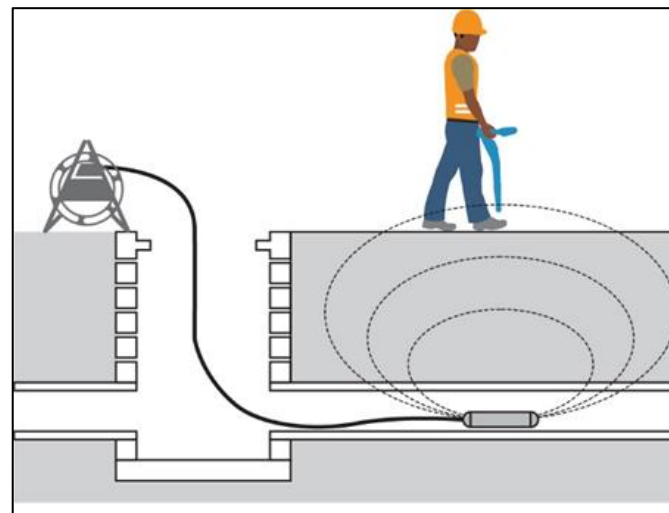
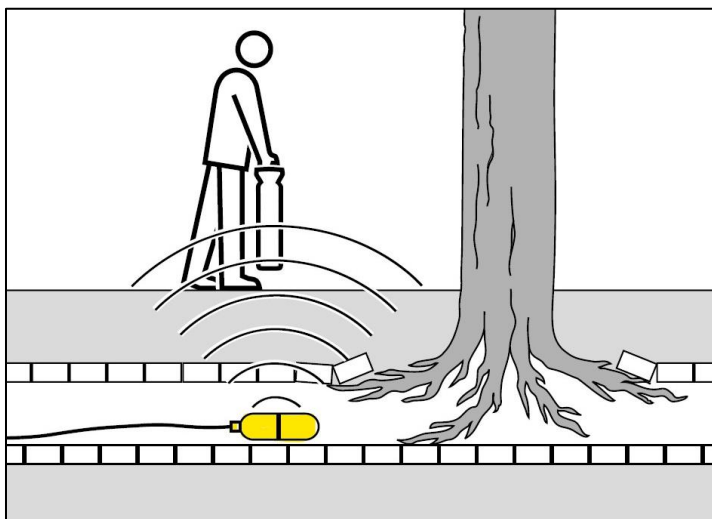


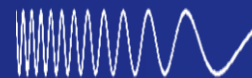
Indução – Pinça / Clamp



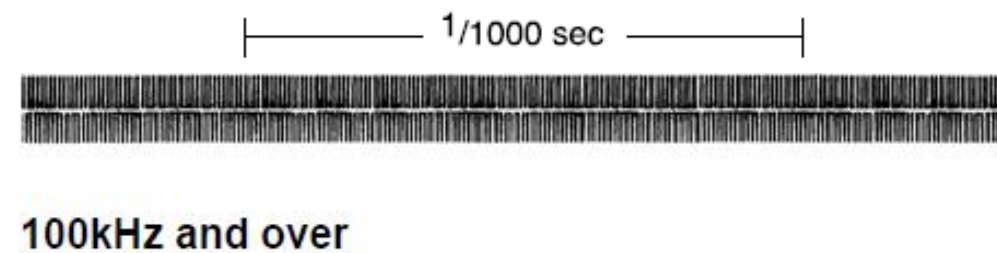
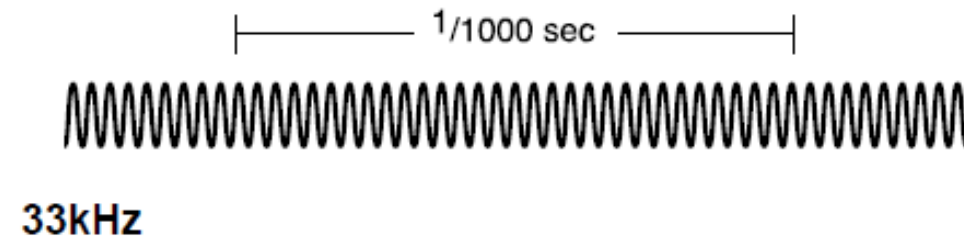
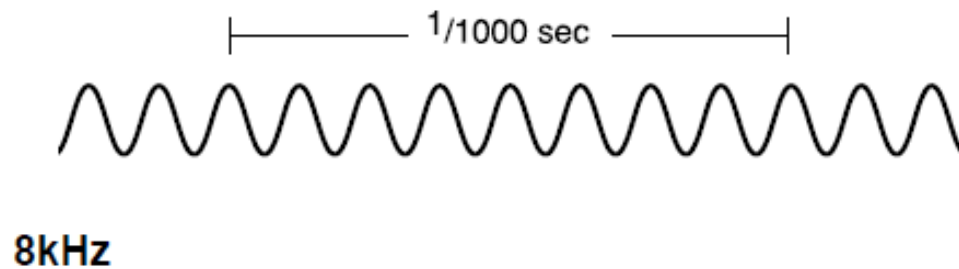
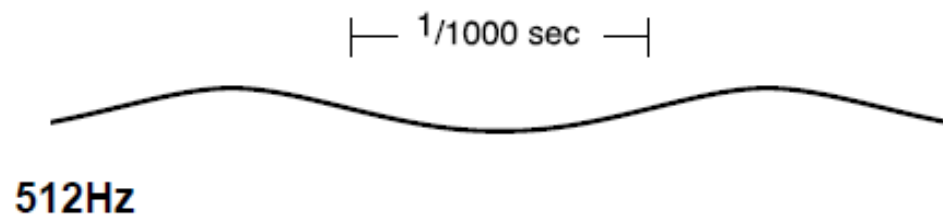


Indução - Sonda





Frequência

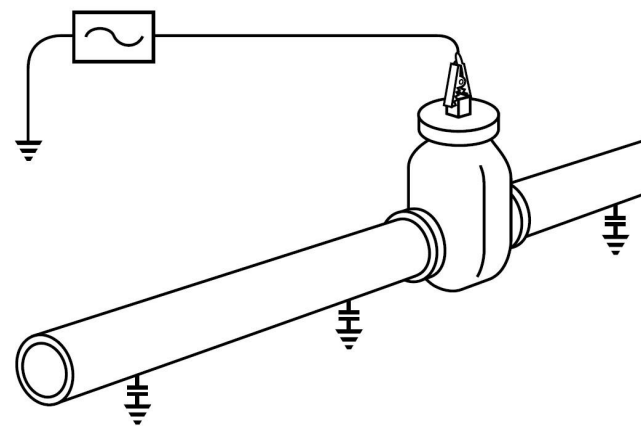




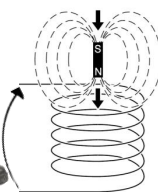
Varredura



Terras



Overview



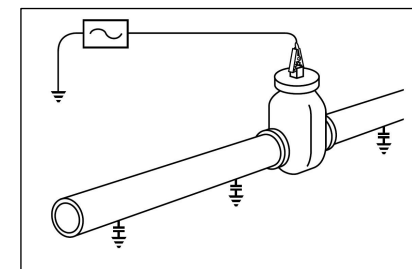
Passivo

- Rx
- AC 50/60Hz

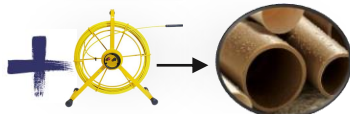
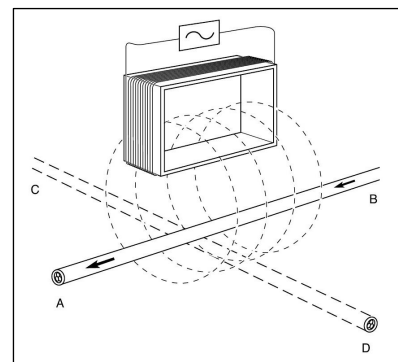
Ativo

- Tx Rx + Acessórios
- Condutivo e Indutivo

Condutivo



Indutivo



Muito Obrigado!



André Mendes
+351 911 096 039

www.mendesmind.wordpress.com
andrephilodeo@gmail.com

Referencial teórico

- **RADIODETECTION. The theory of buried cable and pipe location.** 90/010/ENG/10. 2017. Available <https://www.radiodetection.com/sites/default/files/Theory-Buried-pipe-manual-V10.pdf?buster=isiig9Qw>
- **VENKATESWARLU B. and TEWARI, Vinod C. Geotechnical Applications of Ground Penetrating Radar (GPR).** Jun. 2014. Disponível em: https://www.researchgate.net/publication/267757343_Geotechnical_Applications_of_Ground_Penetrating_Radar_GPR

