

## ABSTRACT

In this global era, the needs for telecommunications services especially multimedia, has becoming very important. Telecommunication network which based on copper cables has limitation to fulfill those needs. Thus, to solve the limitation in local access network based on copper cables, and to fulfill the needs for multimedia service, we use fiber optic as the medium. Even if we analyze customer's needs for digital system, like high speed/broadband, fiber access networks are the fittest solution to solve the problem.

Besides, this fiber access local network planning is developed to implements opticalization program from PT TELKOM in Indonesian cities, included Yogyakarta. In Yogyakarta, fiber access network developed just only for business area, so this final project gives priority for fiber access network development for business area only.

Furthermore, this final project will discuss about fiber access network planning like demand forecasting for five coming years, technologies, configuration, equipments until network map development, and tests the network feasibility to be implemented on the real condition by counting parameters like Power Link Budget and Rise Time Budget.