**CASE STUDIES – ELECTRONIC BLASTING SYSTEM APPLICATIONS**

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**ABSTRACT**

Initiation systems are used to control the release of the explosive energy in a productive and safe sequence. The results of the blasts depend on the correct choice of the initiation system (nonelectric, electronic, electric and detonating cord) and its application in addition to other main design parameters (explosive, rock type, blast design parameters). Nonelectric initiation systems still dominate the global market; however, the use of electronic blasting systems increased significantly globally especially in the last decade. In Turkey, its use is relatively limited to certain applications and growing in the last 5 years. The electronic blasting system users have benefited from its safety and accurate timing (precision) resulting in productivity improvements.

This paper presents the wider applications from both Turkey and globally at both open pit and underground mines as well as quarries and construction industries. Open pit mines benefited from its safety features, less productivity loss due to remote firing feature, better fragmentation, improved final wall blast results, better dilution/ore loss control, improved vibration/airblast control and improved operational efficiency. The ability to fire both trim and production blasts using electronic blasting systems minimised the production scheduling restrictions and improves excavator productivity at large open pit mines. Underground mines benefited from reduced damage/overbreak, improved fragmentation, reduced vibration, ability to fire mega blasts for mass mining, reduced dilution, etc. For tunnelling, better advance rate, reduced overbreak/underbreak are the main benefits.