



Fachartikel

## Cost Considerations for In-Pit Crushing/Conveying Systems

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This article focuses on continuous materials handling systems used in the hard rock open-pit mining industry. Guidelines for mine planning with continuous systems are outlined. Key parameters affecting capital and operating costs are identified. Commonly encountered trade-offs between operating and capital costs are discussed. A typical range of costs is presented based on average operating conditions.

### 1. Definitions

Because in-pit/crushing/conveying is relatively new to the industry, the vocabulary used is still in a state of flux and causes considerable confusion at times. The following definitions will be used in this discussion:

**Near-Pit Crusher:** Crusher located outside the pit but adjacent to the perimeter, e.g. Duval Sierrita's 60 inch gyratory waste crushers, Gibraltar's 54 inch gyratory ore crusher.

**In-Pit Crusher:** Crusher located within the past or future influence of the ore body, e.g. Anamax Twin Buttes' 54 inch gyratory waste crusher and Cyprus Bagdad's 60 inch gyratory ore crusher.

**Mobile Crusher System:** Crusher and feeder with integral propelling mechanism such as walking pads or permanent crawler, e.g. Palabora's 54 inch gyratory ore crusher.

**Portable Crusher System:** Crusher and feeder with independent propelling mechanism such as crawler transporter, e.g. Duval Sierrita's 60 inch gyratory ore crusher.

**Movable Crusher System:** Crusher/feeder with independent propelling mechanism such as crawler transporter and with relocation costs from 10% to 150% of capital costs for site preparation and dismantling, e.g. proposed Utah Mines Island Copper 54 inch gyratory ore crusher and Iscor 60 inch gyratory waste crusher...