

Smart railway station untuk efisiensi energi = Smart railway station for energy efficiency

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Abstrak

[ABSTRAK

Hal yang menjadi perhatian saat ini bahwa konsumsi energi terbesar yaitu berasal dari bangunan hingga mencapai 48%, dan pencahayaan/lampu bertanggungjawab langsung terhadap 20% emisi gas rumah kaca dan diperkirakan bahwa pencahayaan/lampu menanggung 30% - 40% penggunaan dan biaya listrik untuk bangunan pada umumnya. Disisi lain, stasiun kereta api sebagai salah satu bangunan publik di Indonesia memerlukan perhatian lebih dalam hal energi efisiensi, mengingat bahwa konsep bangunan pintar belum pernah diaplikasikan pada stasiun-stasiun kereta api di Indonesia. Lebih lanjut, kebanyakan stasiun didesain dan dibangun tanpa adanya perhatian khusus terhadap efisiensi energi dan integrasi antara operasional dan subsistem bangunan stasiun kereta api.

Sejalan dengan perkembangan teknologi saat ini, energi listrik memainkan peranan penting dan kebutuhan terhadap energi listrik terus meningkat dalam mendukung pembangunan di Indonesia. Namun, dikarenakan ketersediaan energi listrik terbatas, maka diperlukan penghematan listrik terhadap semua sistem yang menggunakan energi listrik, oleh karena itu dalam laporan tesis ini akan diperkenalkan sebuah konsep yang disebut Smart Railway Station yang fokus terhadap penghematan energi dan efisiensi pada operasional lampu dengan mengintegrasikan tiga factor yaitu penghematan energi, keselamatan dan keamanan.

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ABSTRACT

Concerns at this time that the biggest energy consumption comes from buildings up to 48%, and the lighting is directly responsible for around 20% of greenhouse gas emissions and estimated that lighting accounts for 30 to 40% of electricity usage and costs in a typical building . In other side, railway station as one of the public buildings in Indonesia that need attention in terms of energy efficiency, considering the smart buildings concept has never been applied in the railway station in Indonesia. Furthermore, most stations were designed and constructed without adequate attention to energy efficiency and the integration of both operating and railway station building subsystems.

In line with current technological developments, electrical energy plays an important role and the needs increased in supporting development in Indonesia. Instead, because of the availability of energy is limited, thus it is necessary to saving energy in all systems that require electrical energy, therefore this report will introduce an Smart Railway Station concept which is focus in energy saving and operating efficiency of lights by integrating energy efficiency, safety and security factors.;Concerns at this time that the biggest energy consumption comes from buildings up to 48%, and the lighting is directly responsible for around 20% of greenhouse gas emissions and estimated that lighting accounts for 30 to 40% of electricity usage and costs in a typical building . In other side, railway station as one of the public buildings in Indonesia that need attention in terms of energy efficiency, considering the smart buildings concept has never been applied in the railway station in Indonesia. Furthermore, most stations were designed and constructed without adequate

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