Chapter 12
Evolution of Indian Railways Through IoT

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ABSTRACT

Indian Railways is the largest rail network in the world, can be plays an essential role in the development of infrastructure areas such as coal, electric power, steel, concrete and other critical industries. Indian government has started concentrating on the modernization of the railways through huge investment. Internet of Things (IoT) is vital attention to expansion and excellence. The chapter will commence with the past history of rail transport in India. Further section will support the IoT which is another great trend in technology. The later section of the chapter will give attention to how Internet of things could expertise the railroad industry, introducing a remedy which will be made to modernize aging sites at railroads, improve basic safety. The railway can help the passenger to utilize fewer interruptions in the event that’s what they need. There’s a large number of things that require to be watched and the railway can run as a completely digital service, without having to have people walking the tracks, it brings cost benefits and increased safety for the workforce.

INTRODUCTION

A brief history of rail transport in India commenced in the mid-nineteenth century. The key of the pressure for building Railways in India came from London. In 1848, there was not a single kilometer of railway line in India. The country’s first train, built by the fantastic Indian Peninsula Railway (GIPR), opened up in 1853, between Bombay and Thane. The East Indian Train Company was established on particular June 1845 in Greater London with a deed of settlement with a capital of 4,000,1000, largely raised in Greater London. The Great Southern India Railway Co. was founded in Britain in 1853 and registered in 1859. Construction of track in Madras Presidency commenced in 1859 and the 80-mile link from Trichinopoly to Negapatam was opened in 1861. The Carnatic Train founded in 1864, opened

DOI: 10.4018/978-1-5225-3176-0.ch012
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In 1865, the Great Lower India Railway Company was subsequently merged with the Carnatic Railway Company in 1874 to create the South Indian Railway Business.

A British engineer, Robert Maitland Brereton, was accountable for the expansion of the railways from 1857 onwards. The Allahabad-Jabalpur branch brand of the East Indian Train had been opened in June 1867. Brereton was accountable for linking this with the GIPR, resulting in a combined network of 6,400 km (4,000 mi). Hence it became possible to travel straight from Bombay to Calcutta. This route was officially opened on six March 1870 and it was area of the inspiration for French writer Jules Verne’s book All over the world in 80 Days. In the opening wedding ceremony, the Viceroy Lord Mayonaise concluded that “it was thought desirable that, if possible, at the first possible moment, the entire country should be protected with a network of lines within an even system” (History of rail transport in India, 2017).

By 1875, about 95 million were used by British companies in India. By 1880 the network had a way mileage of about 18,500 km (9,100 mi), mostly radiating back to the inside from the three major port cities of Bombay, Madras and Calcutta. Simply by 1895, India had begun building its locomotives, and in 1896, sent technicians and locomotives to help build the Uganda Railways.

In 1900, the GIPR became a government possessed company. The network distributed to the modern-day states of Assam, Rajputhana and Madras Presidency and soon various autonomous kingdoms started to have their own rail systems. In 1905, an early Train Board was constituted, but the powers were technically vested under Lord Curzon. It served under the Department of Commerce and Industry and had a government railway official offering as chairman, and a railway manager from The United Kingdom and an agent of one of the company railways as the other two members. The first time in its history, the Railways commenced to make a profit.

In 1907 almost all the rail companies were taken over by the government. The subsequent year, the first electric locomotive made its appearance. With the arrival of World War 1, the railways were used to meet the needs of the British outside India. With the finish of the war, the railways were in a situation of disrepair and break. Large scale corruption by British officials involved in the running of such railways companies was rampant. Income were never reinvested in the development of British Isles colonial India. In 1920, with the network having expanded to 61, two hundred and twenty km (38,040 mi), a purpose for main management was mooted by Sir William Acworth. Structured on the East India Railway Committee chaired by Acworth, the government went ahead of the management of the Railways and detached the finances of the Railways from other governmental profits.

The time between 1920 and 1929 was a period of financial rate of growth; there were 41,100 mi (66,000 km) of railway lines portion the; the railways displayed a capital value of some 687 million pristine; and in addition, they carried over 620 million passengers and roughly 90 million tons of goods annually. Following the Great Depression, the railways suffered economically for the next eight years. The Second World War significantly crippled the railways. Beginning in 1939, about forty percent of the rolling stock including locomotives and trainers was taken to the center East. The railways workshops were converted to ammunitions workshops and many railway tracks were disassembled to ensure that the Allies in the conflict. By 1946, all train systems had been used over by the authorities.

The first railway on Indian sub-continent ran over a stretch of 21 years old miles from Bombay to Thane. The idea of a railway to hook up Bombay with Thane, Kalyan and with the Thal and Bhore Ghats hillsides first occurred to Mister. George Clark, the Main Engineer of the Bombay Government, during a visit to Bhandup in 1843.