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With increased consumer use and adoption, mobile communication technologies are faced with the challenge of creating an adequate wireless networking architecture that can support a high degree of scalability, performance, and reliability in a cost-effective manner without comprising security or quality of service. Self-Organized Mobile Communication Technologies and Techniques for Network Optimization explores self-organizing networks (SONs) as a proposed solution for the automation of mobile communication tasks that currently require significant efforts for planning, operation, and management. Emphasizing research on the latest generation of mobile communication networks, the 5th generation (5G), this publication proposes timely solutions and presents the latest developments in the field of mobile communication technologies. IT developers, engineers, graduate-level students, and researchers will find this publication to be essential to their research needs.
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This book discusses global mobile satellite communications (GMSC) for maritime, land (road and rail), and aeronautical applications. It covers how these enable connections between moving objects such as ships, road and rail vehicles and aircrafts on one hand, and ground telecommunications subscribers through the medium of communications satellites, ground earth stations, Terrestrial Telecommunication Networks (TTN), Internet Service Providers (ISP) and other wireless and landline

telecommunications providers. The new edition covers new developments and initiatives that have resulted in land and aeronautical applications and the introduction of new satellite constellations in non-geostationary orbits and projects of new hybrid satellite constellations. The book presents current GMSC trends, mobile system concepts and network architecture using a simple mode of style with understandable technical information, characteristics, graphics, illustrations and mathematics equations. It represents telecommunications technique and technology, which can be useful for all technical staff on vessels at sea and rivers, on all types of land vehicles, on planes, on off shore constructions and for everyone possessing satellite communications handset phones. The first edition of Global Mobile Satellite Communications (Springer, 2005) was split into two books for the second edition – one on applications and one on theory. This book presents global mobile satellite communications applications.

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Self-Organized Mobile Communication Technologies and Techniques for Network OptimizationIGI Global

This authoritative book provides a thorough understanding of the fundamental concepts of satellite communications (SATCOM) network design and performance assessments. You find discussions on a wide class of SATCOM networks using satellites as core components, as well as coverage key

applications in the field. This in-depth resource presents a broad range of critical topics, from geosynchronous Earth orbiting (GEO) satellites and direct broadcast satellite systems, to low Earth orbiting (LEO) satellites, radio standards and protocols.This invaluable reference explains the many specific uses of satellite networks, including small-terminal wireless and mobile communications systems. Moreover, this book presents advanced topics such as satellite RF link analyses, optimum transponder loading, on-board processing, antenna characteristics, protected systems, information assurance, and spread spectrums. You are introduced to current and future SATCOM systems and find details on their performance supportabilities. This cutting-edge book also presents trends in multimedia satellite applications and IP services over satellites.

A bestseller since 1847, this well-respected resource is a directory, a client prospect list, a statistical handbook and an invaluable quick reference aid all rolled into one. It's the only book you need when your patrons require facts and figures about Canada or names and addresses of Canadian organizations, institutions, government departments, law firms, school boards, media and much more. Some of the enhancements you'll see in this new edition updates on this year's municipal amalgamations in Ontario and Quebec; expanded communications and information management data; approximately 4,000 web

sites; reorganized and entirely updated health directory; all the details on every amalgamated education board in Ontario and Quebec; and more.

This publication provides a summary of the key methodological issues surrounding indicators and statistics on the space sector and the larger space economy.

Public Protection and Disaster Relief (PPDR) agencies rely on theuse of Private/Professional Mobile Radio (PMR) technologies such asTETRA, TETRAPOL, and APCO 25 which were conceived in the 1990s, inparallel with the second generation (2G) of mobile communicationsystems. Whilst PMR systems offer a rich set of voice-centricservices, with a number of features matched to the specialrequirements of PPDR, the data transmission capabilities of thesePMR technologies are rather limited and lag far behind thetechnological advances made in the commercial wirelessdomain. As a result, Long Term Evolution (LTE) technology formobile broadband PPDR is increasingly backed as the technology ofchoice for future PPDR communications, and technical work iscurrently being undertaken within the 3rd Generation PartnershipProject (3GPP), the organisation in charge of LTE standardisation,to add a number of improved capabilities and features to the LTEstandard that will further increase its suitability for PPDR andother professional users. This book provides a timely andcomprehensive overview of the introduction of LTE technology forPPDR communications. It looks at operational scenarios andemerging multimedia and data-centric applications which have thepotential to improve the efficiency of disaster recoveryoperation. There is a discussion of the main techno-economicdrivers which are believed to be pivotal for an efficient andcost-

efficient delivery of mobile broadband PPDRcommunications. The capabilities and features of the LTEstandard for improved support of mission-criticalcommunications are also covered, as is the applicability ofMobile Virtual Network Operator (MVNO) models for the delivery ofPPDR services through commercial networks. This book offers a wide and deep analysis of the incoming evolutionof PPDR domain, covering user need and technologies, normative andeconomic topics including those in the framework of commercial andPPDR domains' convergence and interoperability. It provides ahighly original reference to the driving subjects and trend ofPPDR evolution worldwide. Chapter headings include:- Public Protection and DisasterRelief communications / Private Mobile Radio systems / MobileBroadband data needs and requirements / Mobile Broadband systemsfor PPDR communications / LTE technology for PPDR / SupplementingLTE / Spectrum use for PPDR / MNVO model for PPDR / Interconnectionof PPDR networks / State of play

This book is intended to assist to improve energy efficiency in the industrial sector. The book offers case studies for industrial energy efficiency improvement and contains brief reports on cutting-edge research in all fields of the energy industry. This book, which is composed of select research proceedings of the EMMFT 2019 conference, covers such issues as: good quality energy use, energy generation technologies, materials used for energy generation, and storage technologies, as well as materials for water purification, petroleum engineering, and digital energy systems. The case studies discussed comprise the use of fossil fuel and non-fossil fuel energy resources, novel materials with advanced heat transport or heat resistance, and energy digitalization. Coverage extends to all theoretical and applied aspects of the field. This book is an ideal resource for scientists and energy analysts, industrial practitioners,

engineers, researchers, and postgraduate students working in the field of management and technology for improving energy efficiency in the industry. Also, the book is of interest to researchers, engineers, and laboratory personnel in the fields of power systems and smart grids.

This updated and expanded second edition reflects the state of earth station design and ground segment architecture. From international telephone network gateways to direct broadcast home receivers, today's broad range of ground systems and devices require satellite communication engineers and business managers to have a broad and sound understanding of the design and operating principles of earth stations and ground control facilities. This book explores the delivery end of the satellite link and its relationship to delivery of services. Authored by a leading authority in the field, the book provides engineers and managers with the knowledge they need to devise their own approach to implementing and managing earth stations and the overall ground segment. Readers find practical guidance in an array of critical areas, including: preparing requirements, performing preliminary analyses, reviewing hardware designs, managing the introduction of the overall ground segment, and more.

Introduces the Internet, discusses electronic mail, searching the Internet, safety precautions, and future developments, and provides a list of sites of interest to young Internet users.