



Motorola: беспроводная связь для повышения безопасности и эффективности работы предприятий



*II Всероссийская конференция
менеджеров энергосбытовых
компаний, инвестиционного
сообщества и регулирующих
органов исполнительной власти*

16 – 20 октября 2007 г.





- ✓ **Motorola для ведомственных и корпоративных заказчиков**
 - ✓ **Motorola сегодня в России и в мире**
-
- ✓ **Решения Motorola для электроэнергетики**
 - ✓ **Наш подход к работе с ведомственными и корпоративными заказчиками**

Title of Presentation

MOTOROLA и стилизованный логотип М зарегистрированы в Департаменте Патентов и Торговых Марок США. Все остальные названия продукции или услуг являются собственностью соответствующих владельцев. © Motorola, Inc. 2007



MOTOROLA на корпоративном и потребительском рынках



Motorola Россия и СНГ Продукты и решения - Microsoft Internet Explorer provided by Motorola

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Address http://www.motorola.com/ru/products.jsp

Motorola предлагает

- Мобильные телефоны GSM
- Профессиональная мобильная связь
- Сети телекоммуникаций
- Широкополосные кабельные системы
- Санкт-Петербургский Центр разработки ПО

ГЛОБАЛЬНЫЕ РЕШЕНИЯ ДЛЯ ПОВСЕДНЕВНОЙ ЖИЗНИ

Мы верим, что можно обладать всем, чем пожелаешь. Именно поэтому Motorola предлагает широкий выбор продуктов и услуг - от мобильных устройств для конечных пользователей до решений для корпоративных заказчиков, ведомств и операторов услуг связи. Готовы к большему? Мы тоже.

Пользователь	Бизнес	Государственная организация	Поставщик услуг
Мобильные Устройства II Решения Для Конечных Пользователей Телефоны Аксессуары к мобильным телефонам Устройства с поддержкой Bluetooth	Транкинговые сети TETRA Радиостанции TETRA Транкинговые сети APCO 25 Аналоговые абонентские терминалы Решения широкополосной передачи данных Системы биометрической идентификации Системы SCADA	Транкинговые сети TETRA Радиостанции TETRA Транкинговые сети APCO 25 Аналоговые абонентские терминалы Решения широкополосной передачи данных Системы биометрической идентификации Системы SCADA	Продукты и решения MOTOw4 Wireless Broadband Networks Converged Core Solutions Решения Безграничной Мобильности Услуги и приложения

<http://www.motorola.com>

Internet

Title of Presentation

Motorola в мире



MOTOROLA сегодня*:

Число сотрудников : 66 тыс. человек

Объем продаж: 42,9 млрд. долларов

Инвестиции в НИОКР 4,1 млрд. долларов

* данные за 2006 г.



Title of Presentation

Motorola в России



MOTOROLA в России:

1980 – поставка радиостанций для Олимпийских игр в Москве

1993 – открытие российского представительства

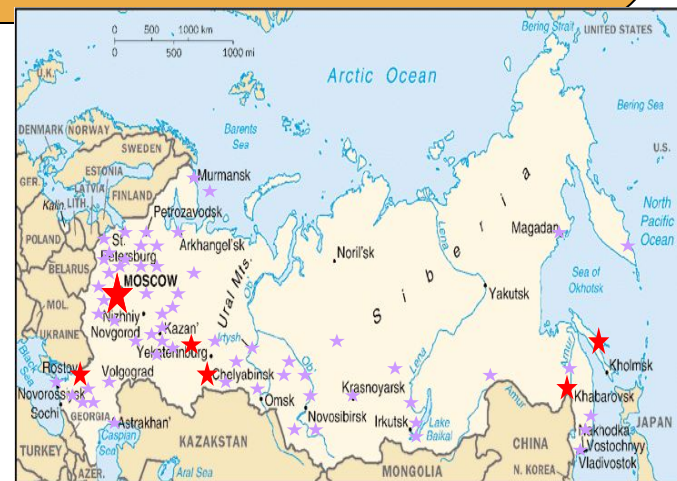
1995 – открытие научно-исследовательской лаборатории в Москве

1997 – открытие Санкт-Петербургского центра по разработке ПО

Более 500 сотрудников в Москве и Санкт-Петербурге

Более 100 авторизованных дистрибьюторов и дилеров, более 20 сертифицированных сервисных центров

Опыт реализации масштабных системных проектов силами российских сотрудников не только в России, но и за рубежом



Title of Presentation

Опыт долгосрочного партнерства



'07 Норвегия: 20 лет

Долгосрочный партнер

'06 Португалия: 15 лет

'06 Великобритания: 14 лет

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Motorola: беспроводная связь для решения технологических задач



Решения Motorola беспроводной связи для электроэнергетики:

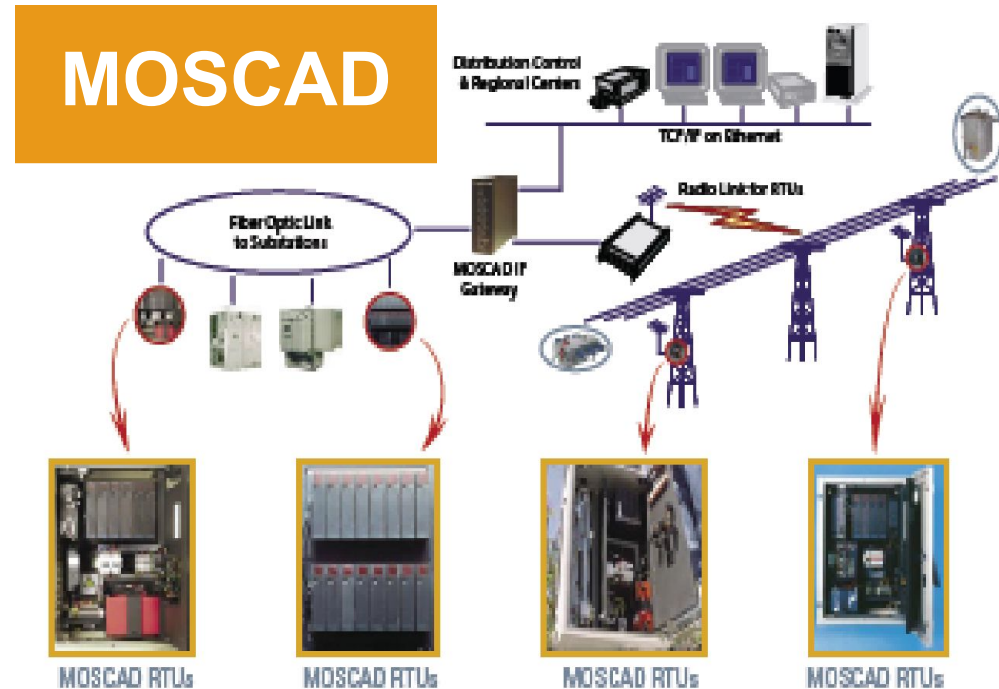
- ✓ Системы телеметрии SCADA (торговая марка Moscad)
- ✓ Системы радиосвязи открытых стандартов TETRA (торговая марка Dimetra IP) и APCO Project 25 (ASTRO 25)
- ✓ Взрывозащищенные терминалы TETRA стандарта ATEX
- ✓ Системы широкополосного доступа (MOTOWi4)
- ✓ Системы биометрической идентификации и контроля доступа

Title of Presentation



Система мониторинга, управления и сбора данных MOSCAD (MOTOROLA SCADA)

Организация сбора данных, оперативного диспетчерского контроля и управления и сложными технологическими процессами для географически распределенных объектов.



Title of Presentation

Наш подход к работе с заказчиками



*Ответственный подход к участию в тендерах.
Мы всегда выполняем взятые обязательства.*

*Огромный опыт реализации проектов. Поддержка
заказчиков на каждом этапе жизненного цикла проекта*

MOTOROLA – надежный выбор

Оценка потребностей.

Совместно с заказчиком выявление особенностей технологии, связи, эксплуатации

Проектирование

Подбор оборудования АСУ ТП, отвечающего требованиям данного объекта. Разработка проектной и исполнительной документации.

Системная интеграция.

Монтажные, пусконаладочные, строительные работы на объекте.



Модернизация системы.

Moscad – легко наращиваемый комплект автоматизации. Модернизация по мере роста задач и потребностей.

Поддержка/ сервис.

Гарантийное и послегарант. обслуживание.

Обучение пользователей

Title of Presentation

Опыт работы в стандарте TETRA



Province of Seita	Argentina	Prague Airport	Czech Rep.	Indian Central Railway (Mumbai)	India	Norway M0	Norway	Taiwan High Speed Rail	Taiwan
Austria M0	Argentina	Prague City Center	Czech Rep.	India (P1st)	Iran	Petroleum Department of Oman	Norway	Taiwan High Speed Rail - Test track	Taiwan
Saidong airport	Austria	Copenhagen Metro	Denmark	Tanna Municipality	Italy	Chaska Metropolitan Police	Pakistan	Taiwan Railway Administration	Taiwan
TETRA (Terminals)	Austria	Copenhagen Airport	Denmark	Tanna Police (Terminals)	Italy	Rakawa - Terminals	Poland	Taiwan's Railways MRT - MRT	Taiwan
Special State Protection Service	Azerbaijan	Copenhagen Airport	Denmark	Tunnel Monte Bianco - Terminals	Italy	Polish Army	Poland	Shanghai, Bankok Airport	Thailand
ASTRID (Terminals)	Belgium	DSB - Danish State Railway	Denmark	Uddevan State	Italy	Polish Police - Krakow	Poland	Telecom - Services of Trinidad & Tobago	Trinidad
Brussels airport - Bellascontrol	Belgium	HUR - Copenhagen Buses	Denmark	Frejus Tunnel	Italy/France	Polish Police - Lodz	Poland	Bom bardier	Turkey
Bulgarian Administration	Bulgaria	Dublin LUAS Light Rail	Ireland	Karachi Jinnah Gas	Kazakhstan	Polish Police - Szczecin	Poland	Seri Refinery	Turkmenistan
Star Antena	Bulgaria	Dublin Police	Ireland	Buta (Busan-Java transit air) line 3	Korea	Polish Police - Warsaw (4)	Poland	Duba International Airport-Terminals	UAE
Kumovo Antena	Bulgaria	Metso-Rotina Paper Mill	Finland	Daegu Police	Korea	Wroclaw Public Transportation	Poland	Central Scotland Police	UK
Armed Police (Belgium)	China	ADP - Airport	France	Daegu Subway	Korea	Cairo Bus, Lisbon	Portugal	Cumbria Constabulary	UK
Beijing Light rail	China	Bordeaux Municipality - Terminals	France	GRN (P1st) - National Emergency	Korea	Lisbon Municipality	Portugal	Derby Police	UK
Beijing Metro Line 5	China	Cofiroute A26 Highway	France	ITAC rail	Korea	Portugal - Madeira Government	Portugal	Dumfries & Galloway Constabulary	UK
Beijing Metro Line 1 & 2	China	EDF - Terminals	France	KSPPH Phase-1	Korea	Portugal M0 - Nationwide	Portugal	Durham and Humberside Police	UK
Beijing Police (Terminals)	China								UK
BOCT - Beijing Int. Sec. Bureau	China								UK
BOCT - Beijing Int. Sec. Bureau	China								UK
Chengde etc.	China								UK
China Armed Police (Terminals)	China								UK
CPN Network, Shanghai Telecom	China								UK
Guangzhou Metro	China								UK
Guangzhou Metro Line 5 & 8	China								UK
Hong Kong International Terminal (HIT)	China								UK
Hong Kong Police	China								UK
Jiuzhuan Railway	China								UK
YRBC - M0 - Hong Kong	China								UK
Yankee - Canton Rail - Corp. (South)	China								UK
Olympic Games Nanning	China								UK
Shanghai Airport	China								UK
Shanghai Fire	China								UK
Shanghai Metro (3 lines)	China								UK
Shanghai Metro Line 4 - Northern Ext.	China								UK
Shanghai National Police	China								UK
Shanghai Security Service	China								UK
Shanghai Traffic Police	China								UK
Tianjin Light Rail	China	Riedel, Soccer World Cup	Germany	Utrecht Police	Netherlands	Basque Government	Spain	Seine Police	UK
Tianjin Metro	China	Rostock	Germany	Utrecht Region	Netherlands	Ebro River	Spain	Tasise Police	UK
Tianjin TEDA	China	Tegel Prison, Berlin	Germany	Kennemerland/Zeeland Police	Netherlands	Enders	Spain	UK Airway Ambulance	UK
Tianjin Beijing Police	China	Traffic Rhein/Neckar	Germany	RFM, Zaanstreek/Waterland Police	Netherlands	Stiri Municipality	Spain	UK Airway MFS	UK
MIAMI SEAPORT	China	Walterton Bewas Berlin	Germany	Limborg Zuid (02000) - Terminals	Netherlands	Guadiana river	Spain	West Meria Police	UK
MIAO YAN SHAN PORT - Dimitra	China	WW Hamburg	Germany	Nord-Holland/Amst	Netherlands	Iberian Airlines	Spain	Zetron	UK
Khalifa Bin Zayed Palace	China	WW Hannover	Germany	Polite Drecht	Netherlands	Madrid Municipality	Spain	Use of Man	UK
Xi'Jiang Railway	China	steno Olympic 2004	Greece	Shall Holland	Netherlands	Madrid Municipality (Madrid Calle 30)	Spain	Ukraine Power Plant	Ukraine
XiJiang rail	China	OTE - Hellenic Telecommunications	Greece	Utrecht - Public Transport - Detronics	Netherlands	Madrid Municipality - Terminals	Spain	Edelca	Venezuela
Croatia M0 - MUFNet	Croatia	HIT-OTB	Hong Kong	Zaanstreek/Waterland Police	Netherlands	Madrid Underground	Spain	Government of the state of Aragua	Venezuela
Croatian M0	Croatia	Kowloon - Canton Rail - Corp. (West)	Hong Kong	Zentral - M0CN	Netherlands	Navarra Government	Sweden	Government of the state of Sucre	Venezuela
Sagek Transport	Croatia	Moscow Terminal	Hong Kong	Zentral - Zealand Police	Netherlands	Stockholm - Busset	Sweden	Government of the state of Tabara	Venezuela
Zendel Curacao	Curacao	Renny Bay	Hong Kong	OWA - All African Games	Nigeria	Stockholm - Tunnel	Sweden	Ministry of Bus, Water/MOPU - Phase 1	Vietnam
Zendel Curacao subsidiary	Curacao	Iceland Nationwide - Nevdalifan	Iceland	Nigeria - ID	Nigeria	Sweden SL Bus	Sweden		
City of Prague	Czech Rep.	TETRA Iceland	Iceland	Nigeria PS	Nigeria	Chand Rai Shek (CRS) - Airport Access	Taiwan		
M00 Czech	Czech Rep.	Delh Metro Rail Corporation	India	Sanjeemzen Airport	Norway	Taiwan CB/PE/NAU	Taiwan		

**320 контрактов
в 68 странах
мира**

Title of Presentation



Опыт поставок систем телеметрии MOSCAD (MOtorola SCAda) для энергетики



EPEC	Argentina	Cerro Prieto	Mexico	
EPEC Los Molinos	Argentina	Los Azufres	Mexico	
EPEC Yocsina - Malaguenio	Argentina	Miguel Aleman	Mexico	
SECHEEP	Argentina	Horowhenua Energy	New Zealand	
Siderar Campana	Argentina	Energia del Sur	Peru	
Trans	Argentina	Philippine Geothermal	Philippines	
AGL	Australia	Maribor	Slovenia	
Pacific Power N.S.W	Australia	Kran & Sellje	Slovenia	
Solaris	Australia	ESKOM	South Africa	
Solaris Pow, P	Australia	FECSA	Spain	
EDA	Azores Islands	FECSA	Spain	
ELFEC	Bolivia	Hongkong	Taiwan	
CEMIG	Brazil	Metropolitan Electric Authority (MEA)	Thailand	
CESP	Brazil	Thailand	Boston Edison	USA
Electrosul Brasil	Brazil	Northern State Power (NSP)	USA	
Garoto	Brazil	Savanna Electric	USA	
INFRAERO	Brazil	Cincinnati Gas & Elec.	USA	
PQU	Brazil	Soyland Power	USA	
PQU	Brazil	Baltimore Gas & Electric	USA	
Etobicoke Hydro	Canada	Belmont Electric, OH	USA	
Hydro Quebec	Canada	Jones - Onslow EMC	USA	
Hydro-Sherbrooke	Canada	Kanata Hydro	USA	
Kanata Hydro	Canada	Kansas Power & Light, Topeka, KS	USA	
Newfoundland Light & Power	Canada	Pierce Pepin Electric Cooperative	USA	
Compañía de Electricidad de Tulua	Colombia	Snowy Mountains	USA	
Empresas Públicas de Medellín	Colombia	Southern Carolina E.	USA	
EPSA	Colombia	United States Navy - PWC Phase 3	USA	
EPSA	Colombia			
EDF France	France			
Israel Electric Co. (IEC)	Israel			
Israel Electric Co. (IEC)	Israel			

**География реализованных
проектов – весь мир**

Title of Presentation

Отзывы пользователей наших Moscad (SCADA) систем



PHYSICAL FORM ONLY
 TEL: 1-800-331-8887 FAX: 1-800-331-2676

Sao Paulo, February 14, 2000

Motorola Communications Israel Ltd.
 8 Karmel Street
 Tel Aviv, 61599 Israel

To: Zelig Herling

This is to confirm that Bioroad - Central Electric do Central do Brasil S.A. has installed since 1998, 7 large Moscad RTUs configured with 800 up to 1000 I/O points. The communication of these RTUs with Control Center is done through DNP 3 Protocol in mode slave and dual channel. These RTUs control and monitor the operation of High Voltage substations used for power transportation.

The Moscad based systems supplied by Motorola, including the hardware, basic software, protocol and application programs, are operating according to our specifications and are performing to our satisfaction. The system is in operation. External advisory brought more 7 large RTUs from 800 up to 1000 I/O points, the project is in development.

We will be glad to answer any questions you may have.

Sincerely yours,
 Eduardo Magin Galvantes
 Technical Manager

Doc. 83100, 80.000 Page 1

Av. D. Coimbra de Mello, 1416 - 8º and
 0664-005 - São Paulo - SP

To: Marcelo Herling, SA
 Maridada Villorcas, 52
 28027 Madrid
 Spain

Mr. Jesus Maria,

Subject: Our Motorola MOSCAD RTU system

For more than 10 years we, the power company of Catalunya, are purchasing and installing Motorola MOSCAD RTU in our Distribution Automation system. We are using the MOSCAD models F90XX series. They are being used with fiber optic RTU and radio communication for distances of hundreds of kilometers throughout Catalunya.

The majority of the MOSCAD RTUs were installed in the last 5 years. Total MOSCAD RTUs installed in our system is about 500 units.

We are very satisfied with the performance and reliability of the MOSCAD RTUs.

Sincerely,
 Guillermo Nofre Gonzalez
 Presidente Redes & RTU Manager
 P.O. Box 100003
 Tel: 3493599490
 Fax: 3493591230
 Email: gnofre@ccn.es

ЭНЕРГОСЕТЬ
 HYDRO

8, Olenyok Street
 Moscow, Ukraine
 125080, 254-0000

Anton G. Gushin, P. Eng.
 Head of Sales Section
 Radio & Control, P.Eng.
 Control Department
 Control Department
 Control Department & Services

March 30, 1992

To whom it may concern:

This is to confirm that Enerbiock Hydro is purchasing The Motorola Moscad RTU in a point to multipoint radio communication configuration. We will be using the RTU for its access of 100 pole top and padmount setting and device operation applications, as well as 77.4 kV and 13.8 kV municipal station control and monitoring applications. The RTU will also be used as up to 6 Circuit Hydro owned transformer stations to monitor and control the 27.6 kV feeder breakers. In total we expect to ultimately use 250 to 300 of these RTUs.

Enerbiock Hydro has approximately 93,000 customers, serves an urban area of about 55 square miles, and has a system peak load of about 700 MW.

Sincerely,
 A. G. Gushin, P. Eng.
 Director of Engineering
 AT&T



The Israel Electric Corp. Ltd.
 Supply and Stores Division
 Divisional Project Management

Fax: 972-4-8687118 Tel: 972-4-8687484 918 2123 1809202

FAX MESSAGE

To whom it may concern

Subject: Use of MOSCAD RTUs in Substation Installations

The Israel Electric Corporation Ltd. (IEC) installed during the past 10 years over 60 large MOSCAD RTUs supplied by Motorola for controlling the operation of our HV/MV substations in voltage levels of 400 kV, 160kV and 33 kV. These large configurations MOSCAD RTUs have a range of I/O points, up to 1500 points per single RTU and up to 3000 points per substation. Installation covered by multiple RTUs. These MOSCAD RTUs communicate with the Storage Energy Management System (SEMS) control center over a wide range of media including point to point lines, and fiber optics, and some RTUs are also equipped with radio link for low data rate backup communication when the main link is not available.

Motorola assisted our team to successfully integrate these RTUs with our existing communication and equipment. We are satisfied with the reliable operation and performance of MOSCAD RTUs and the ongoing support provided us by Motorola's team.

Doti Resniky
 Head of Divisional Project Management
 Supply & Stores Division

The Israel Electric Corporation Ltd.
 Generation and Transmission Group
 Haifa, Israel, P.O. B. 31090
 Tel: +972-4-823-9144
 Fax: +972-4-823-9287

Date: October 14, 1997

To:
 Mr. William Slep
 Motorola Communications Israel Ltd.
 7 Karmel Street,
 Tel-Aviv, 61599 Israel

Subject: MOSCAD-Based Systems Supplied by Motorola

This is to confirm, that the Israel Electric Corporation has installed, since 1994, a range of MOSCAD Remote Terminal Unit-based systems. These RTUs control and monitor the operation of HV-MV substations, turbine generator sites, mobile HV-MV transformer substations, hundreds of MV pole-mounted load break switches and other applications.

The MOSCAD RTUs we use, range from small distribution automation RTUs serving up to 100 I/O points to very large substation RTUs serving more than 3000 I/O points. These RTUs report to our Regional Distribution Control Centers and to the National Energy Management System.

The MOSCAD-based systems supplied by Motorola, including the hardware, basic software and application programs, are operating according to our specifications and are performing to our satisfaction.

We will be glad to answer any questions you may have.

Sincerely yours,
 Robi Lorber
 Manager, Computer Systems
 National Dispatch
 Israel Electric Corporation Ltd.

FE8-10-00 TEL 10-54 AX WROD, MOTOROLA FAX NO. 817297153 1 2

Janus Onlow
 Electric Membership Corporation

210 Western Boulevard
 Indianapolis, IN 46204
 Telephone: (317) 545-0540

October 22, 1999

To: Bob Klawnsler
 From: Jeff Wilson
 Subject: Janus Onlow EMC Moscad Project

Re:

Motorola has satisfactorily completed its Moscad project for Janus Onlow EMC. The following is a brief summary of completed items. Installation of all sites has been completed. DNP communication between the Moscad Equipment processor and Valmont Control has been completed. The status, analog, and control points are polling properly and returning correct values.

Janus Onlow EMC considers Phase 1 of the project complete and is ready for Phase 2 to proceed. Please feel free to contact us at (915) 255-1154 should you have any questions.

Sincerely,
 Jeff Wilson

VVE VYCHODČESKA ENERGETIKA

VVE VYCHODČESKA ENERGETIKA, A.S.
 SLADKOVSKÉHO 215
 501 03 Hradec Králové
 Czech Republic

Podle referenční číslo: 285KNTEL001
 Datum: 2001-2004

CERTIFICATE OF SATISFACTORY OPERATION
 PARDUBICE REGION DAS SYSTEM

This is to certify that KONEKT LTD Souda Integration Company, satisfactory delivered and commissioned Motorola Moscad RTU (RTUs) for our Distribution Automation System (DAS).

The Motorola Moscad RTU provides monitoring and control system for the Pardubice region Electricity network, the Moscad RTUs are installed at the line switches. Some of the Moscad RTUs were used as communication concentrators in the substations.

At the first phase we have installed 200 Motorola Moscad RTUs in year 2002.

We are using the Moscad RTU, which support DNP 3 protocol and MDI-C protocol. The Moscad Model numbers that was installed are F9089 and F9090.

We intend to expand the system to 500 RTUs in the near future.

We are very satisfied with the performance and reliability of the Motorola Moscad RTU.

For on behalf of VYCHODČESKA ENERGETIKA

Head of Dispatch center south
 Tel: +420 464 22330
 Fax: +420 49342198
 Email: trnatek.kempaj@vve.cz

Title of Presentation

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<http://www.motorola.com>

Татьяна Соловьева

**тел. 495 785 0143, 495 920 0164
факс 495 785 0185**

Tatiana.Soloviova@motorola.com

Title of Presentation