



XPERIA S



LT26i

# Purpose of this document

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Sony product White papers are intended to give an overview of a product and provide details in relevant areas of technology.

# Document history

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## Version

August 2012	Third released version	Version 3
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# Sony Ericsson Developer World

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# Product overview

## **Sony Xperia™ S – Experience everything in HD**

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Happy faces, remarkable places. Shoot them in full HD video and see them shine back from the crisp clear HD display. Then move on to a wider world of entertainment. Movies, hit music, PlayStation® games. A few clicks away with Xperia™ S and Sony Entertainment Network. And don't keep all the fun to yourself. Share it on your HD TV, straight from your smartphone.

### **See every detail**

See every inch of that award-winning actor. Zoom in on every detail of your favourite TV show. Experience videos, photos and TV in deep, vivid, colour on the large, bright 4.3" HD Reality Display with Mobile BRAVIA® Engine. Sharp pictures. No jagged edges. Merely the terrific entertainment in HD.

### **Snap your shots in an instant**

Some events are too good to miss. Now you don't have to. Start your camera in just over a second. Pointing and shooting takes one second too. And you can keep on shooting. No delays, no missing the subject. Just you capturing that special moment forever. Then share it direct, on Facebook™ or in a message.

### **Show it like it is**

First day of the summer, last day at the beach. Memories may fade, but Xperia™ S keeps them bright. Record it all in full HD video with the 12 megapixel camera, even in low light. The Exmor R™ for mobile camera sensor lightens up any gloomy day.

### **Got it on your smartphone? Share it on your TV**

Want to be entertained? Download a movie from Video Unlimited™\*. Connect Xperia™ S to an HD TV with an HDMI cable and the TV launcher pops up automatically. Now use your phone to play, fast forward, or enjoy your favourite scene again.

### **Get ready for that kick-down start**

Brake late. Hug the chicane. Accelerate hard out of the turn. Packed full of roaring engines and superb effects, Need for Speed™ Shift by EA™ Games comes free with Xperia™ S. Fingers itching for more? Buy and download more games straight from this PlayStation® certified smartphone. With new games released continuously, boredom is not an option.

*\*Sony Entertainment Network with Video Unlimited and Music Unlimited are not available in every market. Additional charges may apply.*

**Sony Entertainment Network. Your ultimate source for digital entertainment**

Feasts for film fans, masses of music. Enjoy a global catalogue of more than 10 million songs from Music Unlimited™\*. Or download your favourite hit movies from Video Unlimited. It's all on Sony Entertainment Network and exclusive to Sony Xperia™ smartphones. No trips to the store. No late fees. No monthly subscriptions. Just pure entertainment.

The best tracks from Music Unlimited. The latest movies from Video Unlimited - enjoy everything with one account. It's the perfect fit for a life full of entertainment.

*\*Sony Entertainment Network with Video Unlimited and Music Unlimited are not available in every market. Additional charges may apply.*



## Signature features

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The Sony Xperia™ S comes with a range of Sony Ericsson features as standard. Below is a summary of the key signature features.

### **Sony Ericsson Timescape™**

#### **The place to meet your friends**

The Timescape™ application manages all your communication with one person in one place. You can effortlessly browse by category your Facebook™, Twitter™, email and text communications, as well as view your photos. Now everything is all together and in chronological order, so you don't have to open different applications to see what's going on.

### **Sony Ericsson Infinite button**

#### **Everything you want – from everywhere**

Tap the infinite button in the Timescape™ application and smart filter each category of communication by person. For example, when viewing a text message from a friend in Timescape™, tap the infinite button to view a list of all chat messages with that friend.

### **Sony Ericsson Local connectivity**

#### **More control over your media**

Using Sony Ericsson Local connectivity, you can exercise more control over how media files get transferred and stored. For example, you can select MTP mode to transfer files if you want to limit the risk of data corruption or select MSC mode if you want to have more control over the data storage.

### **Sony Ericsson Home screen application**

#### **The place you call Home**

Customise your Home screen with widgets, shortcuts, folders, themes, wallpaper and other items. Where's best for you? Email top right? Music player bottom left? You decide. With four extensions to your Home screen, you've got plenty of space to put things where you want. Just remember to flick left or right to find them.

## Facts – dimensions, weight, performance and networks

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<b>Operating system</b>	Google™ Android™ 2.3 (Gingerbread)
<b>Processor</b>	1.5 GHz Qualcomm MSM8260 Dual Core
<b>GPU</b>	Adreno 220
<b>Size</b>	128 x 64 x 10.6 mm
<b>Weight</b>	144 grams
<b>Available colours</b>	Black White
<b>SIM card</b>	Micro SIM
<b>Main screen</b>	
Colours	16,777,216 colour TFT
Resolution	1280x720 pixels
Size (diagonal)	4.3 inches
Scratch-resistant	Shatter proof sheet on scratch-resistant glass
<b>Input mechanisms</b>	
Text input	On-screen QWERTY keyboard
Touch screen	Capacitive
Touch gesture	Yes – multi-touch, up to 10 fingers supported
<b>Memory</b>	
Internal phone storage	Up to 1.8 GB
RAM	1 GB
Flash memory	32 GB eMMC
<b>Camera</b>	
Camera resolution	12.1 MP
Digital zoom	16x
Photo flash	No
Video recording	Yes – HD 1080p
Video chat camera	Yes
Front Camera	Yes – HD 720p for video chat and 1.3 MP for camera capture
<b>Sensors</b>	
Accelerometer	Yes







Proximity sensor	Yes
Ambient light sensor	Yes
Magnetometer	Yes
Gyroscope	Yes
<b>Networks</b>	
LT26i	UMTS HSPA 850 (Band V), 900 (Band VIII), 1900 (Band II), 2100 (Band I) GSM GPRS/EDGE 850, 900, 1800, 1900
<b>Data transfer speeds</b>	
GSM GPRS	Up to 86 kbps
GSM EDGE	Up to 237 kbps
UMTS HSPA cat 6 (upload)	Up to 5.8 Mbps
UMTS HSPA cat 10(download)	Up to 14.4 Mbps
<b>Talk time (GSM)</b>	Up to 7 hours 30 min*
<b>Standby time (GSM)</b>	450 hours*
<b>Talk time (UMTS)</b>	Up to 8 hours 30 min*
<b>Standby time (UMTS)</b>	Up to 420 hours*
<b>Music listening time</b>	Up to 25 hours
<b>Video playback time</b>	Up to 6 hours 30 min
<b>Embedded Battery</b>	1750 mAh typical 1700 mAh minimum




\* Values are according to GSM Association Battery Life Measurement Technique.

**NOTE:** Battery performance may vary depending on network conditions and configurations, and phone usage.



## Categorised feature list

 <p><b>Camera</b>            3D Sweep Panorama™            12.1 megapixel camera            16x digital zoom            Aperture f/2.4            Auto focus            Face detection            Face recognition            Flash/Pulse LED            Front-facing camera (1.3 MP 720p)            Geotagging            HD video recording (1080p)            Image stabiliser            Red-eye reduction            Scene recognition            Self-timer            Send to web            Smile Shutter™            Sony Exmor R™ for mobile image sensor            Sweep Panorama™            Touch focus            Video light            Video recording</p>	 <p><b>Music</b>            3D surround sound            Album art            Bluetooth™ stereo (A2DP)            Clear audio            Clear bass            Music tones (MP3/AAC)            PlayNow™ service*            Music player            TrackID™ music recognition*            xLoud™ Experience</p>	 <p><b>Internet</b>            Android Market™**            Bookmarks            Google™ search*            Google Voice™ Search*            Google Maps™ for Mobile with Street view and Latitude™*            Pan &amp; zoom            Web browser (WebKit)</p>
 <p><b>Communication</b>            Call list            Facebook™ application*            Google Talk™ application*            Noise suppression            Polyphonic ringtones            Sony Ericsson Timescape™            Speakerphone            Twitter™ (Timescape™ integration)*            Vibrating alert</p>	 <p><b>Messaging</b>            Conversations            Email            Gmail™*            Instant messaging            Multimedia messaging (MMS)            Predictive text input            Sound recorder            Text messaging (SMS)</p>	 <p><b>Design</b>            720p HD display            Auto rotation            Gesture input            Keyboard (on-screen, QWERTY)            Reality Display with Sony Mobile BRAVIA® ENGINE            Screenshot capturing            Touch screen            Wallpaper</p>

 <p><b>Entertainment</b>            3D games            Accelerated Adobe Flash Video            Media browser            Motion gaming            PlayStation® Certified            Radio (FM radio with RDS)            Sony Entertainment Networks*            TV launcher            Video streaming            YouTube™*</p>	 <p><b>Organiser</b>            Airplane mode            Alarm clock            Calculator            Calendar            Contacts            Document readers            eCompass™            Infinite button            Notes            Setup guide            Stopwatch            Tasks            Timer</p>	 <p><b>Connectivity</b>            3.5 mm audio jack (CTIA)            aGPS*            ANT+ sports fitness            Bluetooth™ wireless technology            DLNA Certified®            GLONASS*            HDMI support            Media Transfer Protocol support            Micro USB support            Native USB tethering            NFC            USB High speed 2.0 support            Wi-Fi®            Wi-Fi® Hotspot functionality</p>
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\* This service is not available in all markets.

\*\* Applications from the Android Market™ vary widely in size, from less than 100 KB for small utilities to 3-4 MB for complete games, music player applications, or other major offerings. The average size, if a representative selection of useful and fun applications is selected, is about 1 MB. This means that, on average, more than 100 applications can be downloaded and used on your device without negatively impacting performance. With the ready availability of the Android Market™ application in the phone, it is also very easy to delete and later reinstall infrequently used applications.

# Technologies in detail

**NOTE:** The information outlined below is general and levels of compliance to standards and specifications may vary between products and markets. For more information, contact Sony Ericsson Developer World or your Sony contact person where applicable.

## Device-to-device communications (local)

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### Bluetooth™ wireless technology

Bluetooth™ profiles supported	Advanced Audio Distribution Profile v1.2 Audio/Video Remote Control Profile v1.0 Handsfree Profile v1.5 Headset Profile v1.1 Object Push Profile v1.1 Phonebook Access Profile v1.0
Core version and supported core features	Advanced Audio 2.1 + EDR
Connectable devices	Products supporting at least one of the profiles above.

More information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

[www.bluetooth.com](http://www.bluetooth.com)

**Wi-Fi®**

Supported standards	IEEE 802.11b/g/n and Wi-Fi
Connectable devices	Wi-Fi® access points
Frequency band	2.4 GHz
Data transfer rate	Up to 72 Mbit/s
Security	WEP 64 bit WEP 128 bit TKIP CCMP (AES) Open Authentication Shared Authentication EAP-SIM EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2 PEAPv1/EAP-GTC WPA Personal and WPA2 Personal WPA Enterprise and WPA2 Enterprise
Encryption	WEP, TKIP and AES
Power save	WMM-UAPSD QoS, WMM

## DLNA Certified® (Digital Living Home Alliance)

Supported Device Classes	<p><b>M-DMS – Mobile Digital Media Server</b>  Media Types: images  Summary: The digital media server exposes the media files in your phone to a Wi-Fi® network. The files can then be accessed from other DLNA Certified® clients.</p> <p><b>+PU+</b>  Media Types: image, video and music  Summary: Play media in the phone on another device, such as a TV or computer using 2 box push technology. +PU+ is integrated in the Gallery and Music applications.</p> <p><b>M-DMP – Mobile Digital Media Player</b>  Media Types: image, video and music  Summary: Play content stored on another device, for example, a server or a PC, directly on the phone.</p>
Supported Bearers	Wi-Fi®
DRM Support	The DLNA Certified® implementation does not support DRM-protected content.

**NOTE:** Only M-DMS/M-DMP/+PU+ for image is used for DLNA Certification.

## Messaging

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### MMS (Multimedia Messaging Service)

According to OMA Multimedia Messaging Service v1.0 + SMIL

### Email

Bearer type (IP)	GPRS, EGPRS, UMTS
Character sets	BIG5 Traditional Chinese GB18030 ISO-2022-JP Japanese ISO-8859-1 ISO-8859-2 Eastern Europe ISO-8859-5 Cyrillic ISO-8859-7 Greek ISO-8859-9 Turkish ISO 8859-11 KOI8-R Cyrillic Shift_JIS Japanese USASCII UTF-16 UTF-8 Windows® 874 Windows® 1251 Cyrillic Windows® 1252 Windows® 1254 Turkish Windows® 1258 Vietnamese
Protocols	POP3 and IMAP4
Push email	Microsoft® Exchange ActiveSync® (EAS)
Secure email	SSL/TLS, both port methods (POPS/IMAPS) and START-TLS
HTML mail	Yes (read only)

#### More information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

[www.openmobilealliance.org](http://www.openmobilealliance.org)

## Positioning – location based services

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Supported standards:

- OMA Secure User Plane Location (SUPL) v1.0
- 3GPP™ Control Plane location (incl. Emergency location)
- Qualcomm® GPSOneXtra™

Supported satellite systems:

- GPS
- GLONASS\*

\* **NOTE:** GPS and GLONASS are used together to calculate the position. Positioning is more robust and accurate in most conditions, if both systems are active. The benefits of using GLONASS are automatically available for all applications using the Satellite Positioning API ("GPS Provider" in Android terminology).

## Provisioning (OMA CP)

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OMA CP version 1.1

## Multimedia (audio, image and video)

<b>Audio Playback</b>	<b>Decoder format</b>	<b>Supported in file format</b>
	Audio decoding MPEG-1/2/2.5, audio layer 3	MP3 (.mp3), 3GPP (.3gp), MP4 (.mp4, .m4a)
	AAC, AAC+, eAAC+	3GPP (.3gp), MP4 (.mp4)
	AMR-NB, AMR-WB	3GPP (.3gp)
	General MIDI (GM)	SMF (.mid)
	Linear PCM 16bit	WAV (.wav)
	OTA	OTA (.ota)
	Ogg vorbis	Ogg vorbis (.ogg)
<b>Audio Recording</b>	<b>Encoder format</b>	<b>Supported in file format</b>
	AMR-NB, AMR-WB	3GPP (.3gp), MP4 (.mp4), AMR (.amr)
	AMR-NB, AMR-WB, AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps	3GPP (.3gp), MP4 (.mp4)
<b>Image Playback</b>	<b>Decoder format</b>	<b>Supported in file format</b>
	1, 4, 8, 16, 24 and 32 bpp and RLE encoded formats	BMP (.bmp)
	Single and multi-frame, bitmap mask support (GIF87a format and GIF89a format)	GIF (.gif)
	Joint Photographic Experts Group	JPEG (.jpg)
	Portable Network Graphics Bitmap mask support	PNG (.png)
	Wireless Bitmap	WBMP (.wbmp)
<b>Image Capture</b>	<b>Encoder format</b>	<b>Supported in file format</b>
	Joint Photographic Experts Group	JPEG (.jpg)
<b>Video Playback</b>	<b>Decoder format</b>	<b>Supported in file format</b>
	MPEG-4 Simple Profile Level 6, Advanced Simple Profile Level 5	3GPP (.3gp), MP4 (.mp4)
	H.264 High Profile Level 3.2	3GPP (.3gp), MP4 (.mp4)
	H.263 Profile 0 Level 70	3GPP (.3gp)



<b>Video Recording</b>	<b>Encoder format</b>	<b>Supported in file format</b>
	Video H.263 Profile 0, H.264 Baseline Profile Audio: AAC-LC stereo, sample rate 48 kHz bit rate 128 kbps, AMR-NB	3GPP (.3gp), MP4 (.mp4)
<b>Audio/Video Streaming</b>	Streaming transport	RTSP according to 3GPP™ HTTP streaming
<b>DRM</b>	DRM (Digital Rights Management) – features the rights and copy protection of downloaded content	OMA DRM 1.0 Marlin DRM

## **Synchronisation (OMA DS, EAS, Google Sync™)**

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OMA Data Synchronisation protocol versions 1.1.2 and 1.2

OMA Data Formats: vCard 2.1, vCalendar 1.0

Microsoft® Exchange ActiveSync® protocol version 2.5

Microsoft® Exchange ActiveSync® protocol version 12

Microsoft® Exchange ActiveSync® protocol version 12.1

Google Sync™

Related information:

[www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

## Web browser

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Browser version	Android 2.3 Browser (Based on WebKit)
Navigation/rendering	Adobe™ Flash™ 11* Full page PC rendering Landscape/portrait rendering Pan & Zoom Sharing links using NFC
Search	Internet Search
Browser compliancy	CSS 2.0 CSS 2.1 CSS 3.0 DOM 2.0 DOM 3.0 HTML version. 4.0 HTML version. 5.0 JavaScript 1.7/ECMA-script 262 3rd edition WebGL 1.0 XHTML Basic version 1.0 XHTML 1.1
Supported Device API	Geo-location API
Protocol compliancy	Gzip HTTP/1.1 OMA Download 1.0 TLS 1.0 and SSL 3.0

\* Updates are distributed via Android market™.

Related information: [www.sonyericsson.com/developer](http://www.sonyericsson.com/developer)

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