

Test av programvare for mobile enheter

Lars Petter Løvslett

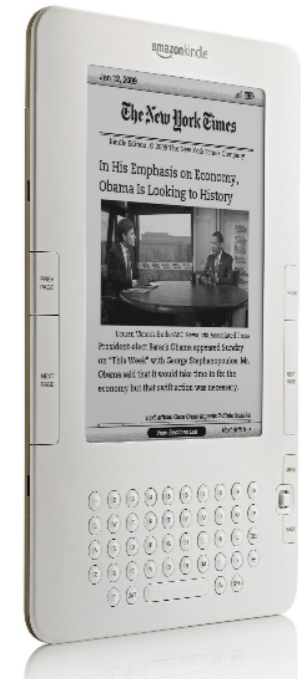
05.09.2011

Lars Petter Løvslett

- IT-Partner i Elan
- Studert informasjonsvitenskap ved UiB
- Arbeidet med bruk av mobile ad-hoc nettverk som bredbånd i tilknytning til digitale nødnett
- Siste 3 år som testleder hovedsaklig innenfor mobil- og nettbank.

Mobile enheter

- Smarttelefoner (high-end, business og mid-range)
- Nettbrett
- I tillegg lesebrett, tablet pc, personlig navigasjon, håndholt spillkonsoll, digital kamera, osv.

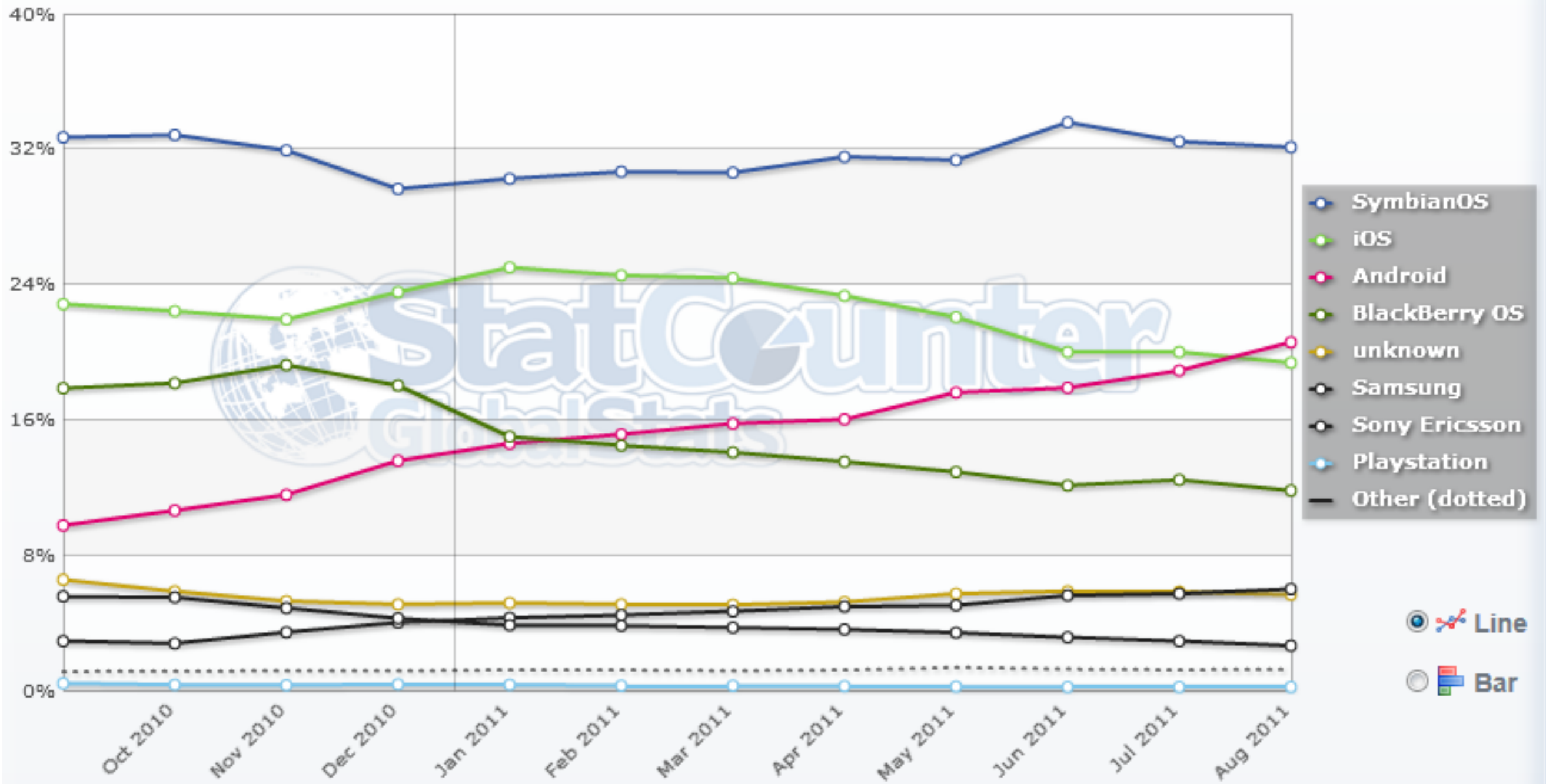


Litt statistikk mobile operativsystem



StatCounter Global Stats

Top 8 Mobile OSs from Sep 10 to Aug 11



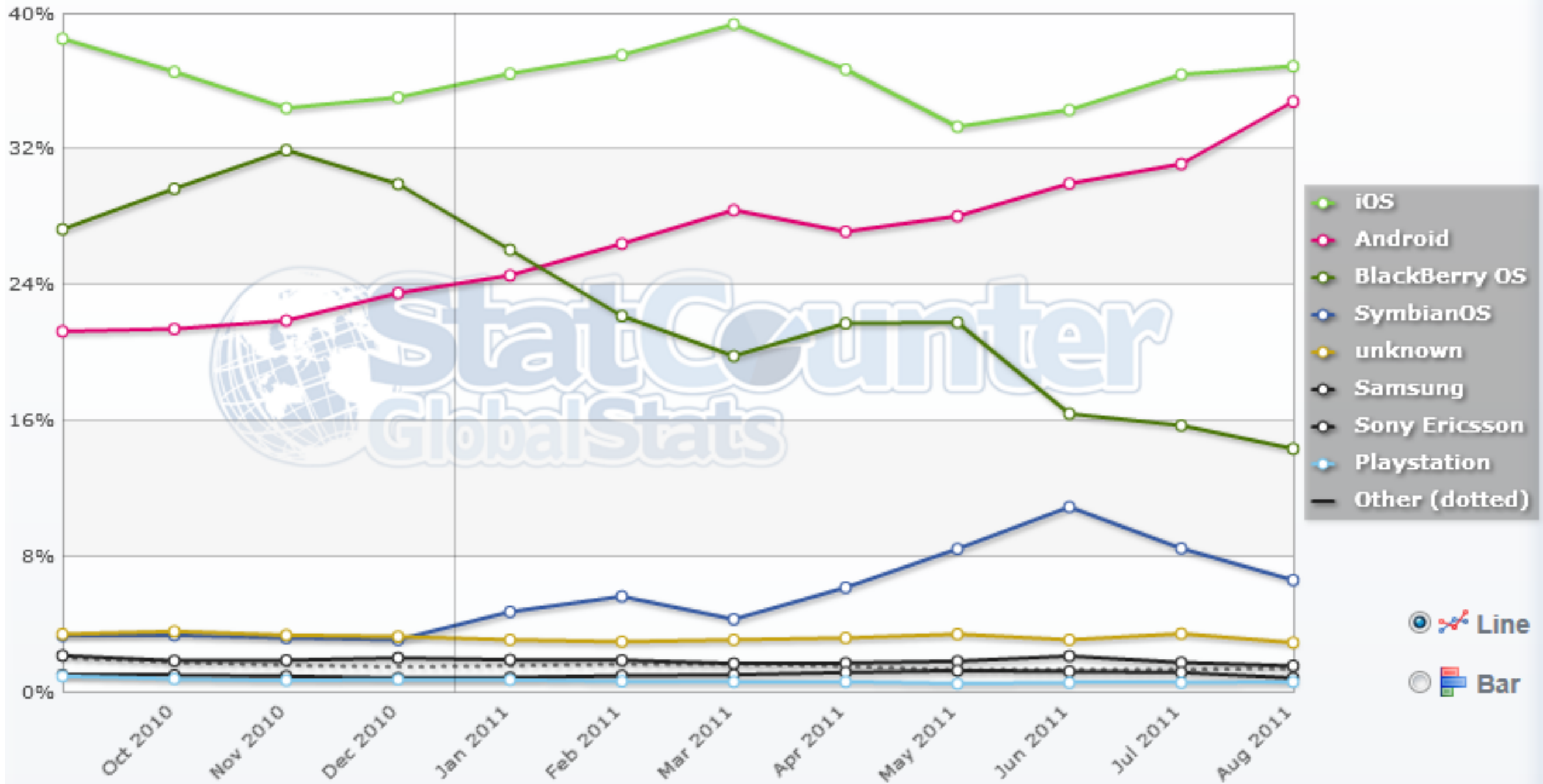
Statistic:

Country/Region:

Time Period: **Sep 10 to Aug 11**

Kilde: <http://gs.statcounter.com>

StatCounter Global Stats
 Top 8 Mobile OSs in North America from Sep 10 to Aug 11

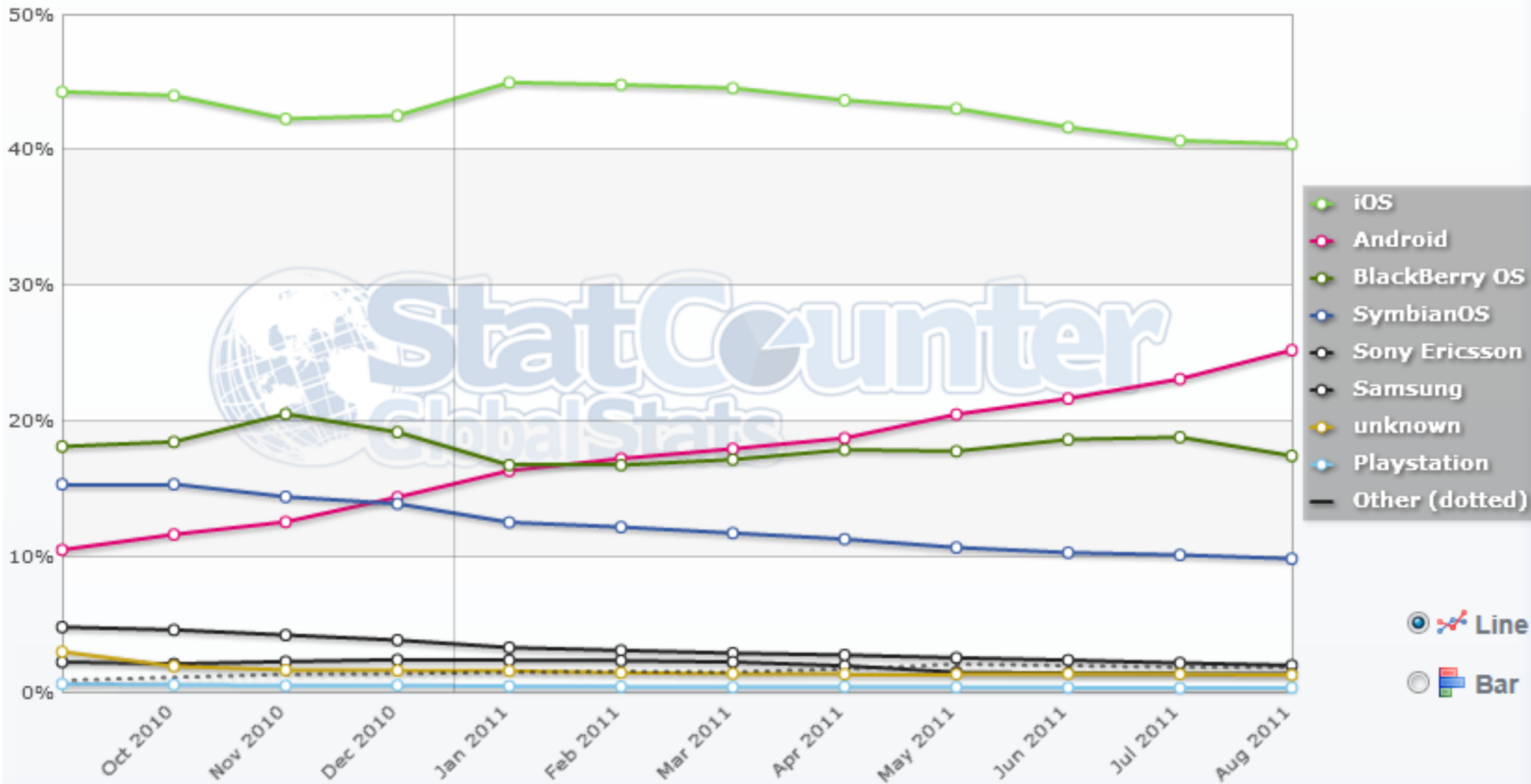


Statistic: Mobile OS Country/Region: North America Time Period: Sep 10 to Aug 11

Kilde: <http://gs.statcounter.com>

StatCounter Global Stats

Top 8 Mobile OSs in Europe from Sep 10 to Aug 11



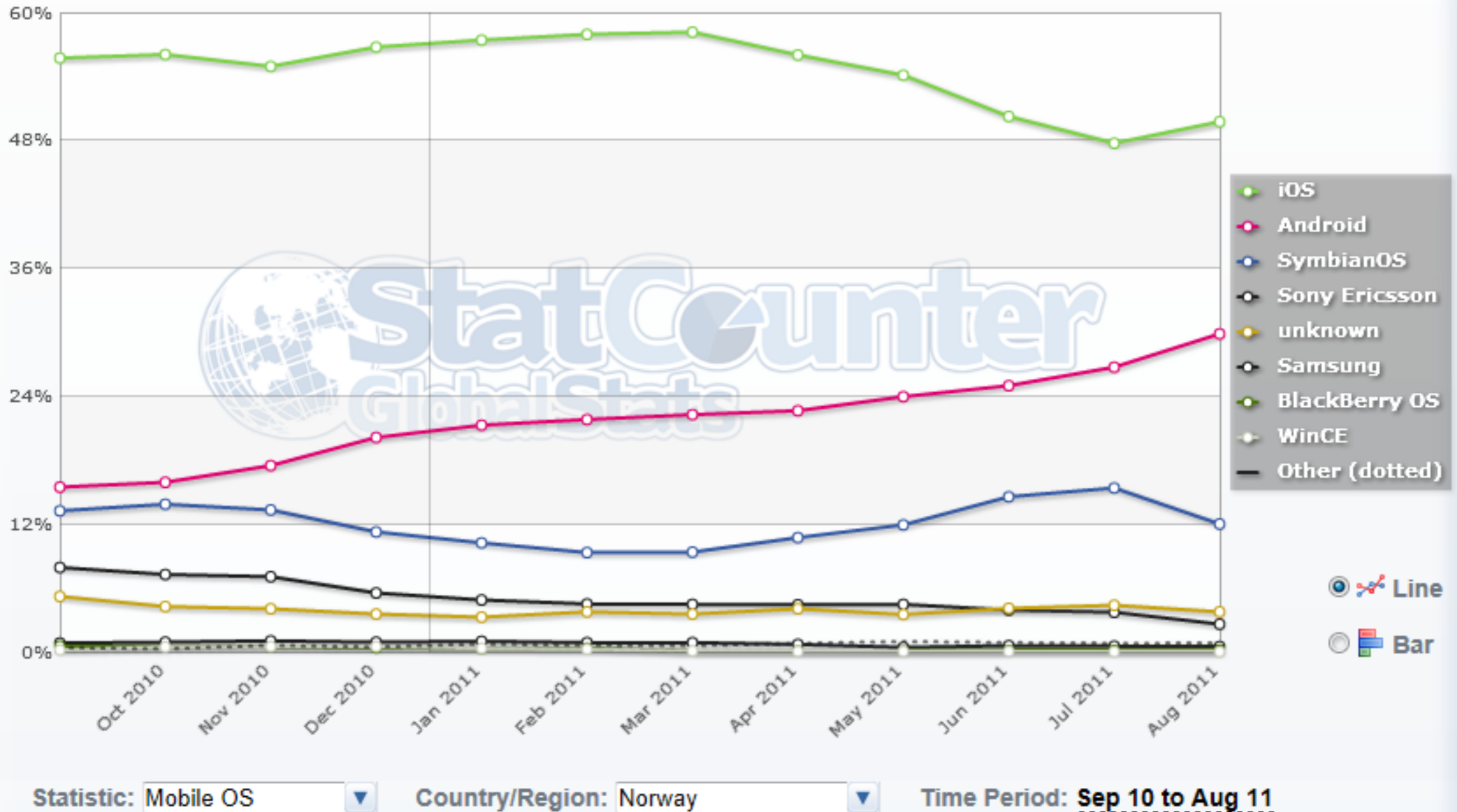
Statistic: Mobile OS

Country/Region: Europe

Time Period: Sep 10 to Aug 11

Kilde: <http://gs.statcounter.com>

StatCounter Global Stats Top 8 Mobile OSs in Norway from Sep 10 to Aug 11



Kilde: <http://gs.statcounter.com>

Applikasjonstyper

- Native
- Web
- Messaging
- Hybrid

Native apps

- iOS
- Android
- Symbian
- Blackberry
- Windows Phone/Mobile
- WebOS/Palm OS
- Meego
- Bada



symbian



Web applikasjoner

Forenklet: en server side og en browser hos sluttbruker

- Opera
- Android
- Nokia
- Safari
- Explorer
- Blackberry
- Sony Ericsson
- Samsung

Hybrid applikasjon

- Kombinerer 2 eller flere av typen app, web og messaging
- F.eks Skandiabanken sin app



Hvem er kunden?

- Bestiller/systemeier
- Sluttbruker som får tilgang til tjenesten

Sikkerhet

- Behov for kryptering av lokalt lagrede data
- Brukersesjoner
- Reautentisering (f.eks. betalingstjenester)
- Lagring og logging av data i applikasjonen i forhold til personvern.
- Sikkerhetstrusler som malware og virus

MDM (Mobile Device Management)

- Fjerninstallasjon, konfigurering
- Intern app store
- Roller
- Sikkerhet
- Kan gi bedre brukeropplevelse

Teststrategi kan utledes fra følgende punkter

- Informasjon om sluttbrukerene (lokasjon, kundeforhold, web-statistikk osv.)
- Type applikasjon (native, web...)
- Krav fra kunde eller systemeier
- Sikkerhet (sensitive data)
- Testmiljø
- Tid og økonomisk ramme
- Og selvfølgelig som for all software i forhold til krav, design og testbarhet

Testgjennomføring

- Emulator/SDK
- Browser (mulig fra pc ved hjelp av user agent switcher, endre header)
- Automatisert test
- Mobile enheter (OS, produsent, browser, skjermoppløsning)
- Test services (f.eks DeviceAnywhere, eller Perfecto mobile)
- Testverktøy (Selenium, Quality Center, TestLink)
- Testmiljø og testdata
- Starte tidlig!!

Mobildata vs. Wlan

- Tilgjengelighet
- Håndterer applikasjonen at telefonen bytter mellom mobildata og wlan
- Utfordring i forhold til testmiljø
- ISP

Brukertest - konteksten er viktig

- Lys, innendørs/utendørs
- En hånd
- I bevegelse
- Sluttbruker (fysiske attributter)
- "Field" eller lab test

Mobile rammeverk og standarder

- Html 5
- CSS 3
- Mobile rammeverk (SDK, JQuery mobile, Sencha, JQtouch)
- Cross-platform development

Konsekvenser ved feil

- Rating i app stores, den enkelte sluttbrukers oppfatning blir svært synlig
- Omdømme, tillit kan svekkes
- Kundeservice, økt pågang
- Økonomiske konsekvenser (f.eks. tapt salg)

Eksempel nike+



- Ca. 4 millioner brukere

Dear Nike+ Member,

It's been a tough couple months for Nike+. We know from the feedback that there have been a number of issues, including logging in, syncing devices, sharing runs and editing profiles. Not everyone has been affected, but if you have experienced any of those problems, I'm genuinely sorry. Running is supposed to be pure, simple and uncomplicated. And Nike+ is supposed to enhance it, not make it more complex.

Just like you, we hold ourselves to incredibly high standards, and right now Nike+ isn't living up to them. There are lots of reasons why these problems began, but this letter isn't about the excuses. This letter is about what we are doing to fix them and what's coming next.

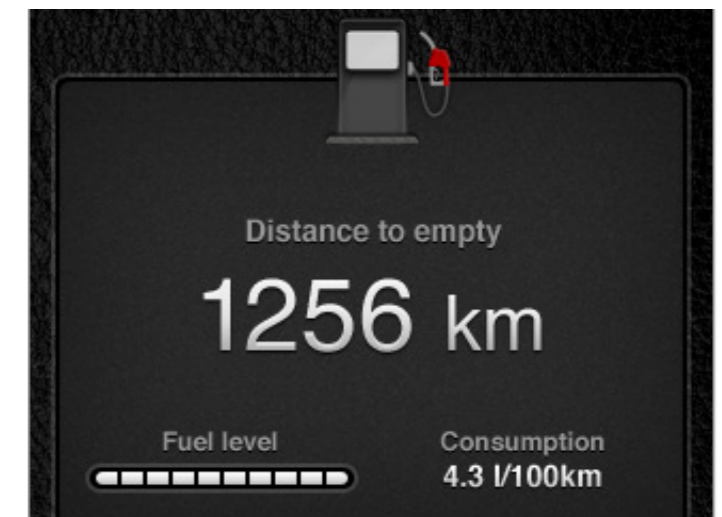
As of today we have increased login speed and eliminated a majority of login failures. We have improved your ability to sync devices, log runs and post information to Facebook. We are also working on a new version of the Nike+ GPS app that will be released shortly. It will introduce some great new features and address some of the recent bugs.

Things are better but we aren't done yet. We're working on a brand new platform for Nike+ that includes better coaching, maps and challenges. It will be much faster, more social, and easier to use, providing more information and analysis of your runs. Also in the works are some really exciting new products and services. We are committed to relentlessly improving and innovating to ensure that, just like you, Nike+ is never standing still.

Thanks for taking the time to read this. If you have any thoughts or questions please [email us](#) or go to our [Facebook page](#) and we'll get back to you.

Thanks for your patience. We really appreciate you being a part of the Nike+ family. There are great things to come.

Jayme Martin
VP/GM NIKE Running



	Break fluid	●
	Bulb failure	●
	Coolant level	●
	Oil level	●

Volvo On Call app (Android og iPhone)