

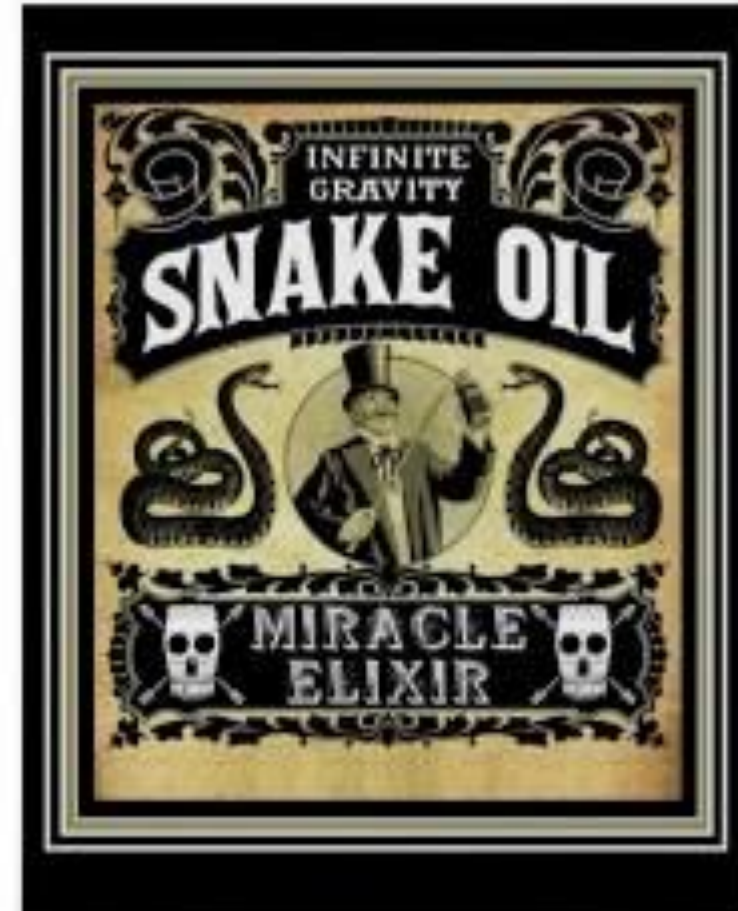
# Grand Challenge in Consumer Digital Security/Privacy

**Dave Kleidermacher, Google VP  
Engineering - Android, Google Play,  
Made by Google Security & Privacy**

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# Transparency: tide that raises all boats



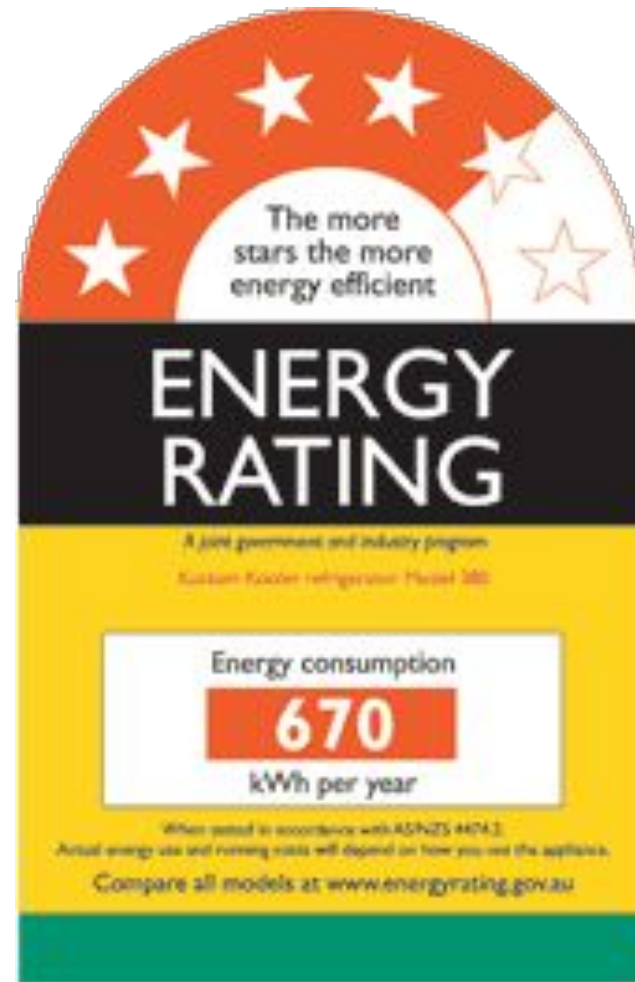
**Lack of objective measurement and transparency of measurements is a core source of risk in the IoT**



# Transparency: tide that raises all boats

<b>Nutrition Facts</b>			
2 servings per container			
<b>Serving size</b>		<b>1 cup (255g)</b>	
	<b>Per serving</b>	<b>Per container</b>	
<b>Calories</b>	<b>220</b>	<b>440</b>	
	<b>% DV*</b>	<b>% DV*</b>	
<b>Total Fat</b>	5g <b>6%</b>	10g <b>13%</b>	
Saturated Fat	2g <b>10%</b>	4g <b>20%</b>	
Trans Fat	0g	0g	
<b>Cholesterol</b>	15mg <b>5%</b>	30mg <b>10%</b>	
<b>Sodium</b>	240mg <b>10%</b>	480mg <b>21%</b>	
<b>Total Carb.</b>	35g <b>13%</b>	70g <b>25%</b>	
Dietary Fiber	6g <b>21%</b>	12g <b>43%</b>	
Total Sugars	7g	14g	
Incl. Added Sugars	4g <b>8%</b>	8g <b>16%</b>	
<b>Protein</b>	9g	18g	
Vitamin D	5mcg <b>25%</b>	10mcg <b>50%</b>	
Calcium	200mg <b>15%</b>	400mg <b>30%</b>	
Iron	1mg <b>6%</b>	2mg <b>10%</b>	
Potassium	470mg <b>10%</b>	940mg <b>20%</b>	

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



Recommended	CR Consumer Reports										Treadwear	Price	Final Grade
	Test of All-Weather and Winter Tires												
	Dry Braking	Wet Braking	Dry Handling	Aquaplaning	Snow Traction	Ice Braking	Ride Quality	Noise	Rolling Resistance	Speed Index			
Place	Models												
✓ 1	Cooper Discoverer True North	✓	✓	✓	✓	✓	✓	✓	✓	H	N/A	\$92	70
✓ 2	Hankook Winter i*cept iZ 2	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$101	70
✓ 3	Continental WinterContact SI	✓	✓	✓	✓	✓	✓	✓	✓	H	N/A	\$121	69
✓ 4	Michelin X-Ice Xi3	✓	✓	✓	✓	✓	✓	✓	✓	H	N/A	\$98	68
✓ 5	Nokian Hakkapeliitta R3	✓	✓	✓	✓	✓	✓	✓	✓	R	N/A	\$147	68
6	General Altimax Arctic 12	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$84	67
7	Bridgestone Blizzak WS80	✓	✓	✓	✓	✓	✓	✓	✓	H	N/A	\$109	67
8	Falken Eurowinter HS449	✓	✓	✓	✓	✓	✓	✓	✓	H	N/A	\$91	64
9	Dunlop Winter Maxx WM02	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$140	63
10	Toyo Observe G3-ICE	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$137	62
12	BFGoodrich Winter T/A KSI	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$123	61
13	Yokohama iceGUARD iG52c	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$91	60
14	Falken Espia EPZ II	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$94	60
15	Laufenn I Fit Ice	✓	✓	✓	✓	✓	✓	✓	✓	T	N/A	\$110	60
16	Firestone Winterforce 2	✓	✓	✓	✓	✓	✓	✓	✓	S	N/A	\$86	59

TiresVote.com

SOURCE: FDA



“A lack of transparency, results in a distrust and a deep sense of insecurity.”

Dalai Lama

# IoT Certification Labels @Google

- Android device ecosystem
- Mobile app ecosystem
- IoT smart home ecosystem (Nest, FitBit, etc.)
- Sensitive data API ecosystem

android 



Google Play



Nest

 fitbit®

# IoT Certification Labels @Google

android  Pixel

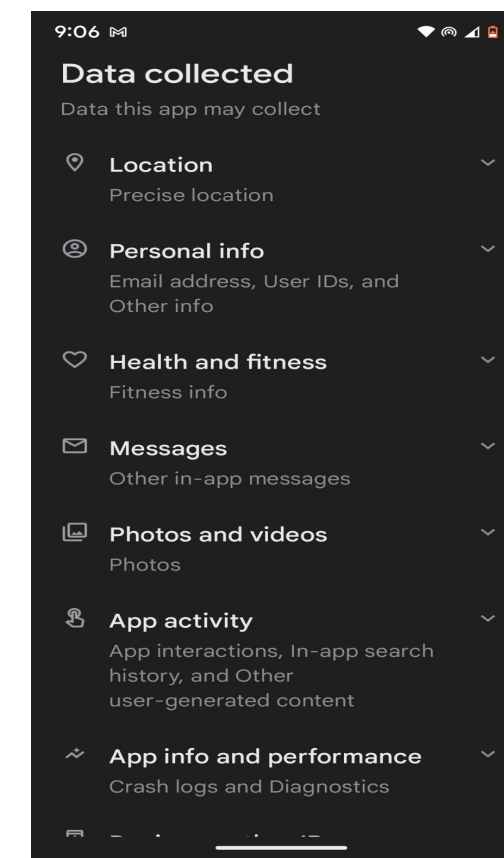
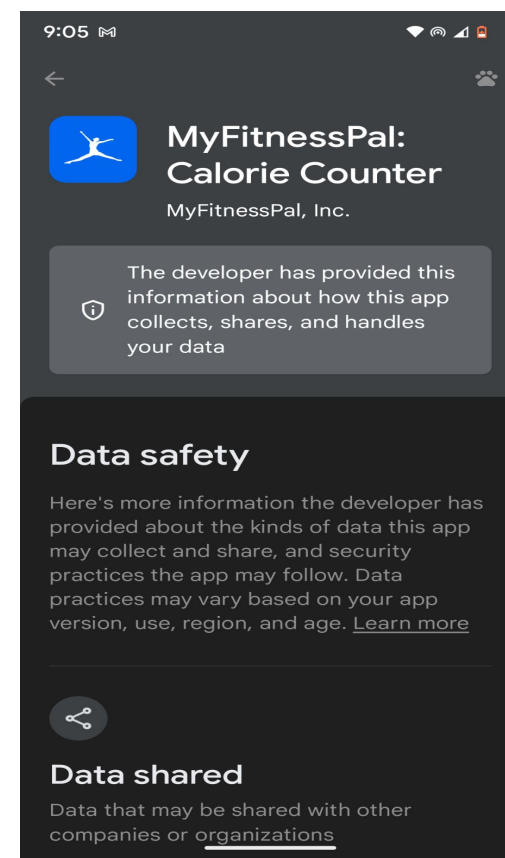
- Android devices
  - CDD and GMS are the minimum bar
  - Baseline: ETSI 103732
  - Extension: HW, Biometrics, lifetime, preloads
  - GSMA scheme supported by carriers and OEMs globally
  - Certifying Pixel and several OEM flagships





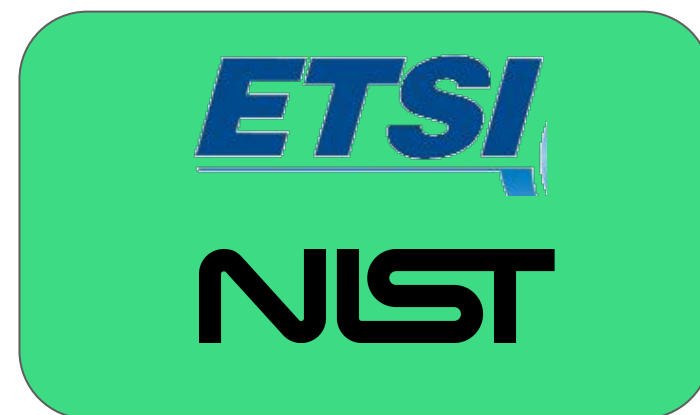
# IoT Certification Labels @Google

- Mobile apps
  - Baseline: OWASP MASVS
  - Extension: data safety section
  - App Defense Alliance (MASA)
  - Label in Google Play:



# IoT Certification Labels @Google

- Smart home ecosystem
  - Baseline: ETSI 303645 and NIST 8425 (ISO 27402 future?)
  - Extensions: verticals, e.g. smart speakers
  - Connectivity Standards Alliance (CSA) scheme
  - Certifying new Nest devices
  - Managing 3P Nest/Assistant ecosystem (e.g. Matter)



# IoT Certification Labels @Google

- Sensitive data API ecosystem
  - Baseline: OWASP ASVS
  - Extension: levels of assurance based on risk
  - App Defense Alliance (CASA) scheme
  - Fit/Fitbit/HealthConnect, gMail/gDrive, etc.





# Don't get washed out with the tide

- Cross-recognition of scheme results
- Product label recognized by national authorities
  - No static claim of compliance!
  - ISO 27404
- **Grand Challenge:** digital labels for most connected products by 2025

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