

MWC Website and Application Issues

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Executive Summary

There are serious privacy and security issues regarding the 2020 version of the MWC website and its corresponding applications. We did not alter or change the integrity of third party data. As long as it was possible all data we requested and altered was data of our company and employees. We disclose these issues before releasing them publicly.

Through some misconfigured APIs it is possible to retrieve personal information about attendees, speakers, and exhibitors. Most of this information is publicly available and don't need no further authorization or authentication. One misconfigured API needs a valid User-Account to access personal information of other attendees. But to get access to one of those APIs an attacker only needs a MWC20 ticket which is not a countermeasure.

Overall no passwords are exposed through those APIs, but most all of them expose personal Information which should be protected under GDPR. All of our findings seem not only to violate the GDPR but also your own Privacy Policy which states:

“We do not sell personal information to anyone and do not otherwise reveal your personal data to third-parties for their independent use unless (1) you request or authorize it, for instance by registering to a summit or a partner programme, or giving permission to exhibitors and sponsors to scan your attendee badge at the event; (2) it's in connection with GSMA events; (3) the information is provided to comply with the law, enforce an agreement we have with you, or to protect our rights, property or safety, or the rights, property or safety of our employees or others; (4) to GSMA affiliated companies; (5) or the information is provided to our agents, vendors or service providers who perform functions on our behalf.”

Especially the unauthorized information leaks violate this policy critically.

Detailed Findings

The next chapters show the findings in detail.

Unauthorized complete information disclosure

For an unauthenticated user it is possible to retrieve information about all 2.956 exhibitors of MWC 2020 via your website. Among the data that is disclosed there is sensitive business information for example email addresses and mobile phone numbers. There are 1749 “contactTelephone” numbers from which 1.274 numbers are unique in this response and 1472 “contactEmail” fields. The mobile phone numbers do not appear anywhere on the corresponding profile pages since the request is unauthorized and anyone can request this dataset from your webpage. The request is the following: [“https://www.mwcbarcelona.com/wp-json/mwc20_data/exhibitors?search=&total=5000”](https://www.mwcbarcelona.com/wp-json/mwc20_data/exhibitors?search=&total=5000)

This is the data of AWARE7 GmbH that is disclosed by this unauthorized request:

```
{
  "ID": 11445039,
  "post_author": "0",
  "post_date": "2019-12-17 11:13:35",
  "post_date_gmt": "2019-12-17 11:13:35",
  "post_content": "AWARE7 is a young cyber security company based in Gelsenkirchen, Germany, that develops technologies and products and offers services that promote, increase and maintain the IT security level. Through practical work and the regular publication of scientific articles, we are able to explain complex fraud and attack methods to protect companies, authorities and individuals.",
  "post_title": "AWARE7 GmbH",
  "post_excerpt": "",
  "post_status": "publish",
  "comment_status": "closed",
  "ping_status": "closed",
  "post_password": "",
  "post_name": "aware7-gmbh",
  "to_ping": "",
  "pinged": "",
  "post_modified": "2019-12-17 11:13:35",
  "post_modified_gmt": "2019-12-17 11:13:35",
  "post_content_filtered": "",
  "post_parent": 0,
  "guid": "https://www.mwcbarcelona.com/exhibitor/aware7-gmbh/",
  "menu_order": 0,
  "post_type": "mwcb20_exhibitor",
  "post_mime_type": "",
  "comment_count": "0",
  "meta": {
    "_bona_modified_at": "1576581215",
    "_bona_id": "17916",
    "Hidden": "false",
    "bonaEventId": "8",
    "modifiedDate": "1576581215311",
    "id": "17916",
    "name": "AWARE7 GmbH",
    "originId": "EX-0062785",
```

```

"originModifiedDate": "1576578932000",
"featured": "0",
"contactEmail": "matteo@aware7.de",
"contactWww": "https://aware7.de",
"contactTelephone": "+49 +491702296288",
  "fullDescription": "AWARE7 is a young cyber security company based in
Gelsenkirchen, Germany, that develops technologies and products and offers services that
promote, increase and maintain the IT security level. Through practical work and the regular
publication of scientific articles, we are able to explain complex fraud and attack methods to
protect companies, authorities and individuals.",
  "uniqueId": "337140",
  "addressCounty": "NRW",
  "addressTown": "Gelsenkirchen",
  "addressCountry": "757",
  "exhibitorType": "Country Pavilion Co-Exhibitor",
  "originType": "0",
  "downloadables": "{\n\"downloadUrl\":[],\n\"name\":[]}",
  "locations": "[\n\"Hall 6 Stand 6B40\"]",
  "products": "a:0:{",
    "interests": "[\n\"ARTIFICIAL INTELLIGENCE\",\n\"CYBERSECURITY\",\n\"NETWORK
SECURITY\"]",
  "cbaProducts": "a:0:{",
  "cbaDownloadables": "a:0:{",
  "cbaSessions": "a:0:{",
  "country": "GERMANY",
  "buildings": "[\n\"Hall 6\"]",
  "translations": "{\n\"en\":{\n\"fullDescription\":\n\"AWARE7 is a young cyber security
company based in Gelsenkirchen, Germany, that develops technologies and products and offers
services that promote, increase and maintain the IT security level. Through practical work and
the regular publication of scientific articles, we are able to explain complex fraud and
attack methods to protect companies, authorities and individuals.\",\n\"name\":\n\"AWARE7
GmbH\"},\n\"es\":{\n\"fullDescription\":null,\n\"name\":null},\n\"fr\":{\n\"fullDescription\":null,\n\"nam
e\":null}}"
  },
  "terms": null,
  "filter": "raw",
  "permalink": "https://www.mwcbarcelona.com/exhibitor/aware7-gmbh/"
}

```

Here the phonenumber of one of our managing directors is disclosed in the field
“contactTelephone”

Disclosure of speakers

For an unauthenticated user it is possible to dump data of every speaker speaking at MWC. In total these are 1068 speakers and their name, lastname and other personal information as well as 64 personal LinkedIn accounts of these speakers.

This misconfigured API can be found at:

https://www.mwcbarcelona.com/wp-json/mwc20_data/speakers?search=&total=5000

The Output of those APIs contains personal data of all speakers on MWC20, like mentioned above.

```
{ "ID":11448771,"post_author":"0","post_date":"2020-01-29 08:39:46","post_date_gmt":"2020-01-29 08:39:46","post_content":"","post_title":"Awwz","post_excerpt":"","post_status":"publish","comment_status":"closed","ping_status":"closed","post_password":"","post_name":"awwz","to_ping":"","pinged":"","post_modified":"2020-01-29 08:39:46","post_modified_gmt":"2020-01-29 08:39:46","post_content_filtered":"","post_parent":0,"guid":"https://www.mwcbarcelona.com/speaker/awwz/","menu_order":0,"post_type":"mwc20_speaker","post_mime_type":"","comment_count":0,"meta":{"_bona_modified_at":"1580287186","_bona_id":"5833","Hidden":"false","bonaEventId":"8","modifiedDate":"1580287186325","id":"5833","originId":{"153F5038-820F-4AF6-AA82-5FD7308C822C"},"originModifiedDate":"1580284712000","firstNames":"Awwz","mugShotUrl":"https://www.emma.events/static/upload/ow66/members/pic/microphone_284.png","interests":{"a":0},"sessions":"","translations":{"en":{"fullDescription":null,"name":null},"es":{"fullDescription":"","name":null},"fr":{"fullDescription":"","name":null}}},"terms":null,"filter":"raw","permalink":"https://www.mwcbarcelona.com/speaker/awwz/"},"ID":11448772,"post_author":"0","post_date":"2020-01-29 14:36:59","post_date_gmt":"2020-01-29 14:36:59","post_content":"","post_title":"C.E.E. Shepherds","post_excerpt":"","post_status":"publish","comment_status":"closed","ping_status":"closed","post_password":"","post_name":"c-e-e-shepherds","to_ping":"","pinged":"","post_modified":"2020-01-29 14:36:59","post_modified_gmt":"2020-01-29 14:36:59","post_content_filtered":"","post_parent":0,"guid":"https://www.mwcbarcelona.com/speaker/c-e-e-shepherds/","menu_order":0,"post_type":"mwc20_speaker","post_mime_type":"","comment_count":0,"meta":{"_bona_modified_at":"1580308619","_bona_id":"5834","Hidden":"false","bonaEventId":"8","modifiedDate":"1580308619703","id":"5834","originId":{"A8999A2C-5C5F-4A5A-8728-9081E7CE5B88"},"originModifiedDate":"1580307681000","firstNames":"C.E.E. Shepherds","jobTitle":"DJ","mugShotUrl":"https://www.emma.events/static/upload/ow66/members/pic/300cee.png","interests":{"a":1;i:0;a:5:{s:11:"bonaEventId";i:8;s:12:"modifiedDate";N;s:5:"seqNo";i:1;s:7:"ownerId";i:5834;s:9:"relatedId";i:113;}}},"sessions":["2738"],"translations":{"en":{"fullDescription":null,"name":null},"es":{"fullDescription":"","name":null},"fr":{"fullDescription":"","name":null}}},"terms":null,"filter":"raw","permalink":"https://www.mwcbarcelona.com/speaker/c-e-e-shepherds/"},"ID":11448775,"post_author":"0","post_date":"2020-01-29 14:37:00","post_date_gmt":"2020-01-29 14:37:00","post_content":"","post_title":"Folamour","post_excerpt":"","post_status":"publish","comment_status":"closed","ping_status":"closed","post_password":"","post_name":"folamour","to_ping":"","pinged":"","post_modified":"2020-01-29 14:37:00","post_modified_gmt":"2020-01-29 14:37:00","post_content_filtered":"","post_parent":0,"guid":"https://www.mwcbarcelona.com/speaker/folamour/","menu_order":0,"post_type":"mwc20_speaker","post_mime_type":"","comment_count":0,"meta":{"_bona_modified_at":"1580308620","_bona_id":"5837","Hidden":"false","bonaEventId":"8","modifiedDate":"1580308620840","id":"5837","originId":{"3F9E9C2D-F722-4E47-825E-9928349D585B"},"originModifiedDate":"1580307880000","firstNames":"Folamour","jobTitle":"DJ","mugShotUrl":"https://www.emma.events/static/upload/ow66/members/pic/300Folamour.png","interests":{"a":1;i:0;a:5:{s:11:"bonaEventId";i:8;s:12:"modifiedDate";N;s:5:"seqNo";i:1;s:7:"ownerId";i:5837;s:9:"relatedId";i:113;}}},"sessions":["2737"],"translations":{"en":{"fullDescription":null,"name":null},"es":{"fullDescription":"","name":null},"fr":{"fullDescription":"","name":null}}},"terms":null,"filter":"raw","permalink":"https://www.mwcbarcelona.com/speaker/folamour/"},"ID":11448776,"post_author":"0","post_date":"2020-01-29 14:37:01","post_date_gmt":"2020-01-29 14:37:01"}
```

14:37:01", "post_content": "", "post_title": "Honey
Dijon", "post_excerpt": "", "post_status": "publish", "comment_status": "closed", "ping_status": "closed", "post_password": "", "post_name": "honey-dijon", "to_ping": "", "pinged": "", "post_modified": "2020-01-29 14:37:01", "post_modified_gmt": "2020-01-29 14:37:01", "post_content_filtered": "", "post_parent": 0, "guid": "https://www.mwcbarcelona.com/speaker/honey-dijon/", "menu_order": 0, "post_type": "mwcb20_speaker", "post_mime_type": "", "comment_count": "0", "meta": {"_bona_modified_at": "1580308621", "_bona_id": "5838", "Hidden": "false", "bonaEventId": "8", "modifiedDate": "1580308621186", "id": "5838", "originId": "{0ADE14E2-4B09-4CC5-A44C-90DD7079FBD7}", "originModifiedDate": "1580307768000", "firstNames": "Honey
Dijon", "jobTitle": "DJ", "mugShotUrl": "https://www.emma.events/static/upload/ow66/members/pic/300
Honey.png", "interests": "a:1:{i:0;a:5:{s:11:\"bonaEventId\";i:8;s:12:\"modifiedDate\";N;s:5:\"seqNo\";i:1;s:7:\"ownerId\";i:5838;s:9:\"relatedId\";i:113;}}", "sessions": "[2739]", "translations": {"en": {"fullDescription": null, "name": null}, "es": {"fullDescription": null, "name": null}, "fr": {"fullDescription": null, "name": null}}, "terms": null, "filter": "raw", "permalink": "https://www.mwcbarcelona.com/speaker/honey-dijon/"}, {"ID": "11448779", "post_author": "0", "post_date": "2020-01-29 14:37:01", "post_date_gmt": "2020-01-29 14:37:01", "post_content": "", "post_title": "Jamz
Supernova", "post_excerpt": "", "post_status": "publish", "comment_status": "closed", "ping_status": "closed", "post_password": "", "post_name": "jamz-supernova", "to_ping": "", "pinged": "", "post_modified": "2020-01-29 14:37:01", "post_modified_gmt": "2020-01-29 14:37:01", "post_content_filtered": "", "post_parent": 0, "guid": "https://www.mwcbarcelona.com/speaker/jamz-supernova/", "menu_order": 0, "post_type": "mwcb20_speaker", "post_mime_type": "", "comment_count": "0", "meta": {"_bona_modified_at": "1580308621", "_bona_id": "5841", "Hidden": "false", "bonaEventId": "8", "modifiedDate": "1580308621411", "id": "5841", "originId": "{29CFAA47-C205-4A30-9F79-64622B2AAF3A}", "originModifiedDate": "1580307737000", "firstNames": "Jamz
Supernova", "jobTitle": "DJ", "mugShotUrl": "https://www.emma.events/static/upload/ow66/members/pic/300
Jamz.png", "interests": "a:1:{i:0;a:5:{s:11:\"bonaEventId\";i:8;s:12:\"modifiedDate\";N;s:5:\"seqNo\";i:1;s:7:\"ownerId\";i:5841;s:9:\"relatedId\";i:113;}}", "sessions": "[2738]", "translations": {"en": {"fullDescription": null, "name": null}, "es": {"fullDescription": null, "name": null}, "fr": {"fullDescription": null, "name": null}}, "terms": null, "filter": "raw", "permalink": "https://www.mwcbarcelona.com/speaker/jamz-supernova/"}, {"ID": "11448781", "post_author": "0", "post_date": "2020-01-29 14:37:02", "post_date_gmt": "2020-01-29 14:37:02", "post_content": "", "post_title": "Kruder &
Dorfmeister", "post_excerpt": "", "post_status": "publish", "comment_status": "closed", "ping_status": "closed", "post_password": "", "post_name": "kruder-dorfmeister", "to_ping": "", "pinged": "", "post_modified": "2020-01-29 14:37:02", "post_modified_gmt": "2020-01-29 14:37:02", "post_content_filtered": "", "post_parent": 0, "guid": "https://www.mwcbarcelona.com/speaker/kruder-dorfmeister/", "menu_order": 0, "post_type": "mwcb20_speaker", "post_mime_type": "", "comment_count": "0", "meta": {"_bona_modified_at": "1580308622", "_bona_id": "5844", "Hidden": "false", "bonaEventId": "8", "modifiedDate": "1580308622179", "id": "5844", "originId": "{39E96524-DF55-4E37-B433-3C6EB727E24C}", "originModifiedDate": "1580307710000", "firstNames": "Kruder &
Dorfmeister", "jobTitle": "Live
AV", "mugShotUrl": "https://www.emma.events/static/upload/ow66/members/pic/300
kd_1.png", "interests": "a:1:{i:0;a:5:{s:11:\"bonaEventId\";i:8;s:12:\"modifiedDate\";N;s:5:\"seqNo\";i:1;s:7:\"ownerId\";i:5844;s:9:\"relatedId\";i:113;}}", "sessions": "[2739]", "translations": {"en": {"fullDescription": null, "name": null}, "es": {"fullDescription": null, "name": null}, "fr": {"fullDescription": null, "name": null}}, "terms": null, "filter": "raw", "permalink": "https://www.mwcbarcelona.com/speaker/kruder-dorfmeister/"}

Disclosure of attendees and their personal details

After authenticating as any attendee of MWC it is possible to gather personal information about every other attendee. By requesting information about a user not via your webpage but via API there is even more personal data disclosed. The API is located at "<https://bonacms-api.firabarcelona.com/profile/v1/gsmawebteam/8/search>" and reveals 17143 attendees.

This is the data that is leaked:

- Data from visitors
- First name/Surname
- City
- Country
- email
- pictures
- LinkedIn Profile ID
- Contacts indicated at linkedin
- Trade fair contacts
- Blocked trade fair contacts

It is possible to retrieve email addresses of every attendee of MWC with pictures of the attending person. Furthermore it is possible to retrieve all LinkedIn skills of that person via your API. This is a huge personal data leak and a direct violation of the GDPR as it seems. This is a dataset we retrieved from one of our managing directors. He never accepted that GSMA/MWC is allowed to share his LinkedIn skillset, nevertheless the data has the LinkedIn skills embedded in it and we requested it from another account via a search. It seems that MWC/GSMA is using the LinkedIn Developer API to retrieve skills of a person via the "idLinkedIn" object

```
{ "success": true, "elements": 6, "timestamp": 1580906466522, "responseData": { "result": [ { "modifiedDate": 1580905929106, "id": 334170, "userId": "8fac6cf0-7405-43da-a2c8-9ef958a406be", "accountId": 2, "login": null, "title": null, "firstName": "Chris", "lastName": "Wojzechowski", "lastName2": "", "gender": "male", "emailAddress": "chris@aware7.de", "photoUrl": null, "jobTitle": "Managing Director", "companyName": "AWARE7 GmbH", "idLinkedIn": "uXrtc1-zEU", "idMobileConnect": null, "createdDate": 1579707357576, "countryId": 757, "countyId": null, "town": "Gelsenkirchen", "address": null, "postCode": null, "biography": "Wir sind ein junges Cyber Security Unternehmen aus Gelsenkirchen das Technologien und Produkte entwickelt sowie Dienstleistungen anbietet, die zur Förderung, Steigerung und Erhaltung des IT-Sicherheitslevels dienen. \n\nDurch die praktische Arbeit und der regelmäßigen Veröffentlichung von wissenschaftlichen Artikeln gelingt es uns komplexe Betrugs- und Angriffsmethoden zu erklären um Unternehmen, Behörden und Personen zu schützen.\n\nDurch unsere starke Spezialisierung auf ausgewählte IT-Security Themen, können Sie als Unternehmen von unserer Expertise profitieren und technische Sicherheitslücken von uns ermitteln lassen und schließen sowie Ihre Mitarbeiter*innen auf moderne Bedrohungen vorbereiten:\n\n> Live Hacking Shows, Cyber Security Events & Awareness Workshops\nWenn die Geschäftsführung, Ihre Entwickler*innen, Key Account User oder andere Zielgruppen auf die neusten Bedrohungen und Betrugsmaschen im Internet vorbereitet werden müssen, sind wir Ihr zuverlässiger Partner!\n\n> Penetrationstest von Hard- und Software im Black,- Gray & White Box Verfahren\nSie haben eine eigenentwickelte Hard- und/oder Software und wollen IP schützen, Sicherheitslücken auf technischer Ebene schließen und erfahren, wie weit Kriminelle bei Ihrem Produkt gekommen werden? Wir greifen an - in Ihrem Auftrag!\n\n> Digital Risk Management mit
```

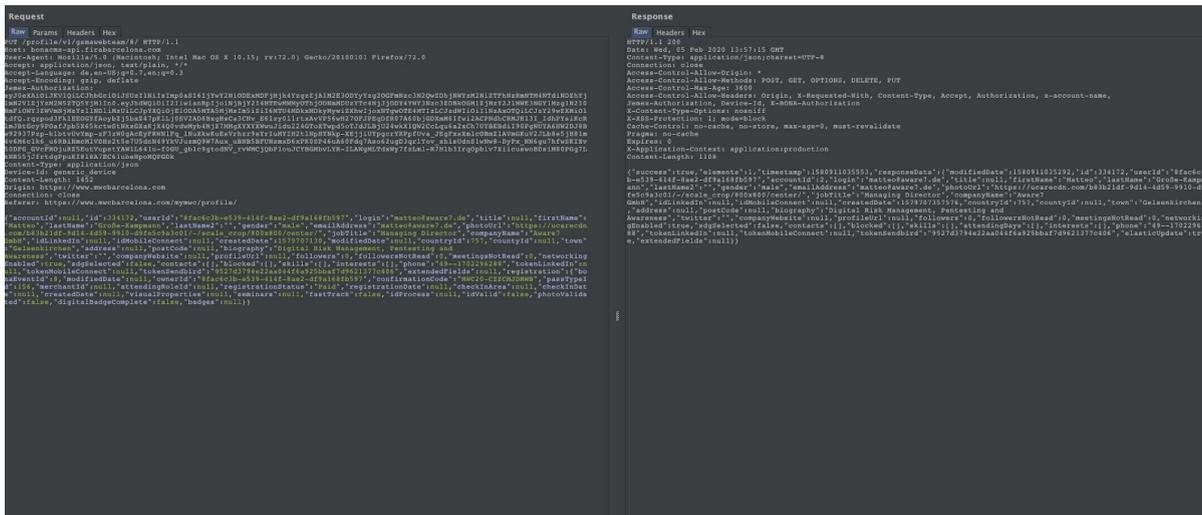
RISKREX - das moderne Risk Assessment Toolbox\nInvestiertes Budget in IT-Security ist schwer bis gar nicht messbar. Bisher. Mit der Hilfe von RISKREX erhalten Sie die Möglichkeit technische & menschliche Schwachstellen zu ermitteln und zu messen. Kampagnen und Untersuchungen lassen sich so nachvollziehen.\n\n→ Sie wollen Ihr IT-Security Level halten oder erhöhen? Dann freue ich mich über Ihre Kontaktaufnahme hier per LinkedIn oder per E-Mail an chris@aware7.de\n",

```
"twitter": "", "companyWebsite": null, "profileUrl": null, "followers": 0, "followersNotRead": 0, "meetingsNotRead": 0, "networkingEnabled": true, "sdgSelected": false, "contacts": [], "blocked": [], "skills": [{"modifiedDate": 1580899722953, "id": 571404, "ownerId": 334170, "name": "Unternehmensführung"}, {"modifiedDate": 1580899722953, "id": 571405, "ownerId": 334170, "name": "Strategische Planung"}, {"modifiedDate": 1580899722953, "id": 571406, "ownerId": 334170, "name": "JavaScript"}, {"modifiedDate": 1580899722953, "id": 571407, "ownerId": 334170, "name": "Management"}, {"modifiedDate": 1580899722953, "id": 571408, "ownerId": 334170, "name": "Microsoft Office"}, {"modifiedDate": 1580899722953, "id": 571409, "ownerId": 334170, "name": "Project Management"}, {"modifiedDate": 1580899722953, "id": 571410, "ownerId": 334170, "name": "Microsoft Excel"}, {"modifiedDate": 1580899722953, "id": 571411, "ownerId": 334170, "name": "Strategic Planning"}, {"modifiedDate": 1580899722953, "id": 571412, "ownerId": 334170, "name": "Microsoft Word"}, {"modifiedDate": 1580899722953, "id": 571413, "ownerId": 334170, "name": "Keynote"}, {"modifiedDate": 1580899722953, "id": 571414, "ownerId": 334170, "name": "Mac OS X"}, {"modifiedDate": 1580899722953, "id": 571415, "ownerId": 334170, "name": "Apple iOS"}, {"modifiedDate": 1580899722953, "id": 571416, "ownerId": 334170, "name": "Microsoft Windows"}, {"modifiedDate": 1580899722953, "id": 571417, "ownerId": 334170, "name": "SQL"}, {"modifiedDate": 1580899722953, "id": 571418, "ownerId": 334170, "name": "Kundendienst"}, {"modifiedDate": 1580899722953, "id": 571419, "ownerId": 334170, "name": "Integration"}, {"modifiedDate": 1580899722953, "id": 571420, "ownerId": 334170, "name": "HTML"}, {"modifiedDate": 1580899722953, "id": 571421, "ownerId": 334170, "name": "Projektmanagement"}, {"modifiedDate": 1580899722953, "id": 571422, "ownerId": 334170, "name": "Unternehmensanalyse"}, {"modifiedDate": 1580899722953, "id": 571423, "ownerId": 334170, "name": "Microsoft SQL Server"}, {"modifiedDate": 1580899722953, "id": 571424, "ownerId": 334170, "name": "Softwareentwicklung"}, {"modifiedDate": 1580899722953, "id": 571425, "ownerId": 334170, "name": "Social Media"}, {"modifiedDate": 1580899722953, "id": 571426, "ownerId": 334170, "name": "Java"}, {"modifiedDate": 1580899722953, "id": 571427, "ownerId": 334170, "name": "Kreativität"}, {"modifiedDate": 1580899722953, "id": 571428, "ownerId": 334170, "name": "Service"}, {"modifiedDate": 1580899722953, "id": 571429, "ownerId": 334170, "name": "IT Security"}, {"modifiedDate": 1580899722953, "id": 571430, "ownerId": 334170, "name": "Betriebssysteme und Netze"}, {"modifiedDate": 1580899722953, "id": 571431, "ownerId": 334170, "name": "BPMN"}, {"modifiedDate": 1580899722953, "id": 571432, "ownerId": 334170, "name": "XML"}, {"modifiedDate": 1580899722953, "id": 571433, "ownerId": 334170, "name": "Business Process Controlling"}, {"modifiedDate": 1580899722953, "id": 571434, "ownerId": 334170, "name": "Controlling"}, {"modifiedDate": 1580899722953, "id": 571435, "ownerId": 334170, "name": "Geschäftsprozessmanagement"}, {"modifiedDate": 1580899722953, "id": 571436, "ownerId": 334170, "name": "Business Process"}, {"modifiedDate": 1580899722953, "id": 571437, "ownerId": 334170, "name": "HTML"}], "attendingDays": [], "interests": []}}
```

Suspected Registration Flaws

While updating profiles is very restricted on the web application

“www.mwcbarcelona.com/mymwcc/profile” it seems that the API provides more function to a logged in user. For example the field “fastTrack” can be modified by a user as seen in the



screenshot. We did not change this field but the webapplication reacts to these requests an it seems to us, that it is also susceptible to modification of these parameters.